

MR PULSE

VOL. 10, NUMBER 1 | MARCH 2003



ELEVENTH SCIENTIFIC MEETING & EXHIBITION
10 – 16 May 2003
Metro Toronto Convention Centre
Toronto, Ontario, Canada

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Letter From The President

In November of last year, our Society conducted its first web-based survey of members, with the goal of obtaining information to assist with future planning. The survey was announced by e-mail and responses were accumulated for approximately two weeks. Despite that relatively short time, over 775 individuals participated in the survey.

The percentage of respondents from each geographic region of the world approximately matched that of the membership our Society (60% from North America and 40% from the rest of the world). The percentage of clinicians among the participants was somewhat lower than that of the general membership, but in most respects, the demographics of the respondents mirrored that of our membership.

In questions relating to educational activities of the Society, the survey revealed many interesting responses. There is a strong sense that the weekend courses at the Annual Meeting are

indeed meeting educational needs of our members. The topics of greatest interest for courses are MRI physics, high field imaging, techniques for clinical MRI, and spectroscopy. With regard to online CME activity, only 15% of respondents thought that the ISMRM should expand its offerings. On the other hand, respondents who agreed outnumbered those who disagreed with the notion that the ISMRM should “advocate or influence” the MRI training of radiology residents and fellows.

Regarding the selection of locations for our annual meeting, respondents identified ease of travel, low expense, and cultural amenities like history and museums as important factors in selecting the locations for our Annual Meeting. The least important factor was “night life,” thereby once again confirming the serious character of our membership! A strong majority of the survey participants indicated that they plan to travel to the 2004 Annual Meeting in Kyoto. Survey questions revealed a number of concerns among participants relating to the housing service provided by the ISMRM for the annual meeting.

A strong majority of responses favored instituting a system of awards for posters at the Annual Meeting. Surprisingly, 43% of respondents indicated that they are not aware of the existence or criteria for the Young Investigator awards that are made at the Annual Meeting. Also of concern is that only 11% of respondents strongly agreed that the process of

ISMRM Membership Survey Results are displayed at this URL.

http://www.zoomerang.com/reports/public_report.zgi?ID=20GHF73KCYPK

See President's Letter page 2

2003 SCIENTIFIC PROGRAM COMMITTEE REPORT

selection of ISMRM Gold Medal, Silver Medal, and Fellow awards is "fair and transparent." In a related finding, 64% of respondents disagree with the proposition that "it is easy for relatively new ISMRM members to get involved in the work of the Society."

The Board of Trustees of the ISMRM reviewed the results of the membership survey at its meeting in late November 2002. Various actions are now being taken to address the issues that have been raised. A common theme is that communication with the membership should be improved. Accordingly, we will be seeking to implement more frequent informal communications with the membership and a more comprehensive letter to new members containing information about how to become more involved with the Society. The members-only section of the Society website will be modified to include a "Frequently asked Questions" (FAQ) section to explain committee structure, study groups, society awards, and the role of the housing service for the annual meeting. Society members will also be given access to the results of the web-based survey.

The Education Committee of the Society has been asked to consider and recommend action on articulating the role of the ISMRM in clinical training. The Meetings Coordination Committee has been asked to evaluate the current housing process for the Annual Meeting and to recommend revisions if needed. The Committee will also study questions about the timing of the Annual Meeting and the desirability of fixed venues.

The Committees responsible for Young Investigator Awards and ISMRM Awards have been asked to look into what can be done to raise awareness of the awards and the process for selecting awardees. A task force will be formed to explore the feasibility of Poster Awards for the Annual Meeting.

I would encourage Society members who have ideas relating to any of these issues to contact me directly to make them known.

— Richard L. Ehman, ISMRM President

In this brief article I will outline the work of the Scientific Program Committee for the Annual Meeting in Toronto this year. There are currently 27 SPC members, a balance of PhD and MDs from around the world with interests covering the range of topics presented annually at the ISMRM. SPC members serve for three years on a rolling basis to provide continuity and new input and ideas to the meeting and the whole planning process. For 2003 I took over from Jeff Evelhoch, whom I would like to thank for his excellent job chairing the SPC 2002 for the enjoyable and successful meeting in Hawai'i last year.

Preliminary Planning took place in January 2002 at the end of the Program Construction Meeting for Hawai'i and involved identifying topics for the Lauterbur Lecture and Plenary Sessions along with outline planning for any changes in meeting structure, morning categoricals and clinical categoricals. This is based on a formal needs assessment and some advance planning. It provided an opportunity to get the framework of the meeting in place and to get everyone thinking ahead of the main planning session. Feedback from ISMRM members on the previous years' meetings through both the meeting evaluation forms and more informal input was and is carefully considered in the planning process.

The Detailed Planning occurred in Hawai'i during the 2002 meeting, and at a marathon 3-hour session the committee agreed with the program outline in relation to the plenaries, morning and clinical categorical sessions. Typically a group of SPC members took responsibility for assembling a particular session and for ensuring a comprehensive attractive program supported with appropriate expert speakers. In addition the committee made some 40 decisions and recommendations regarding changes to the meeting covering topics such as introducing wireless support for portable computers for the first time and the decision to stop producing the printed version of the *Proceedings*. In order to ensure that a range of companies could compete for the contract to support

the electronic submission process, we also agreed to move to a single column format for this year. Further innovations you will see this year are clear guidance on the use of devices inside session rooms, along with the use of video and still cameras. We have moved to single projection screens and data projection as the preferred method of presentation. Because of the continuing confusion created by the term "abstract," we agreed to rename the first 100-word summary of a submission as the "synopsis" and these will be provided in a printed Program Book to every delegate as in Hawai'i. We hope to improve the format and layout of this "Program/Synopsis Book" in order to provide better means of navigating the meeting and linking the schedule with the relevant entries. This year, based on the feedback and evaluation from previous meetings, a sustained effort was made to reduce any inappropriate overlap of speakers and to bring in new talent where possible. The chairs of both the Education Committee and the Scientific Program Committee liaised closely to ensure that the Weekend Educational Courses and Categorical Courses during the week complemented each other and avoided repetition. Both these elements of the Annual Meeting are seen as crucial to the success of the meeting, and if you review this year's program you will see substantial refreshment of the educational and categorical courses along with an additional morning categorical being offered.

The Submission & Review Process—December 2002

It was agreed at the Hawai'i meeting that, despite the problems of previous years, we would pursue full electronic submission this year for the first time. This involved beta testing during the summer several vendors' trial websites to see if they could withstand the unique combination of images, equations, and text generation systems that are a feature of the ISMRM submissions. After a lively debate, MIRA was chosen to support this year's submission process and after

The 2003 Scientific Program Committee program construction meeting.



all the advance planning and previous experiences you may imagine some anxiety as the deadline approached! However, MIRA responded to the challenge and, as requested, were able to bolster their servers as they came under load in the last 24 hours. You may have noticed some slowing approximately 12 hours prior to the deadline just before the system was almost doubled in capacity to handle the onslaught of submissions, some helpfully containing 30MB size images! Overall the submission process worked very well with only minor hitches, and we expect that this will provide a basis for further development and refinement in future years. It may even be possible to return to the double column format in time— if this is what you would prefer (look out for future membership surveys taking place). A major advantage of completely electronic submission will be immediately apparent to you when you see the quality of the submissions on the CDs for Toronto.

Having successfully captured the submissions, each one was allocated to five reviewers blinded to the author and institution. This year, for the first time, we asked ISMRM members if they would like to put themselves forward as potential reviewers by providing details of their interest and experience via a call on the ISMRM website. Some 350 of you responded and about 150 of you were asked to help with the review process, for which we are very grateful. It is our intention to repeat this process each year to encourage refreshment of the reviewer panels on a rolling basis. The timetable for the review process is tight, and I should like to thank all those who took part

for keeping to the deadlines. Again we managed to successfully carry out the review process on an entirely electronic basis with reviewers both accessing their allocated abstracts and inputting the score results by website.

The Program Construction Meeting was held in the Royal York Hotel, in Toronto, on January 25- 26th this year. Membership of the SPC requires mandatory attendance at this meeting, where every single submission is reviewed and the final decisions on acceptance and rejection made. This is based on reviewer scoring in relation to category and global percentile results.

On Saturday, the SPC formed loosely into major category “teams” and firstly identified and swapped those abstracts placed into the wrong category; in addition, decisions were made on “duplicate” or “salami” submissions identified by the reviewers or by the global crosschecking performed by the ISMRM office staff. Following this the SPC members put together oral sessions from the highest rated abstracts, creating the core scientific, clinical focus and basic science focus sessions. Once these were drafted the remaining poster space was reviewed and the final acceptance threshold set. The remaining abstracts were then themed within categories to create poster sessions. Somewhat bizarrely this whole process was handled primarily using paper and a single set of submissions on blue paper, which were traded and organized with clips into the relevant sessions. The finalized sessions were all logged by Jane Tiemann and Roberta Kravitz onto computers to record the decision

and location of each submission. This year the SPC was then allowed out for the evening and as a reward for their hard work enjoyed the stage show, “Mamma Mia.”

Suitably refreshed, the SPC then moved on Sunday morning to the allocation of the oral sessions within the overall meeting framework that had been decided back in Hawai’i. This is usually an enjoyable semi-riot as the whole 27 strong SPC tries to glue itself to the Monday morning slots! However, I believe that this year through controlled peer group pressure combined with the ground breaking innovation of colored post-it notes and armed with last year’s allocation for reference, we achieved an equitable allocation with no physical injuries. For the record we received 3,513 submissions to 92 categories, of which 2,595 were accepted making an acceptance rate of approximately 73.9%. There will be 72 Oral Scientific Sessions, 6 Basic Science Focus Sessions and 7 Clinical Science Focus Sessions. Within the poster hall there will be 1803 posters themed in 122 poster sessions.

Thanks are due to the hard working ISMRM staff, in particular Jane Tiemann, Roberta Kravitz, and Bob Goldstein, who provide the whole SPC with tremendous support and guidance through their extensive experience in running these meetings. In addition I should like to thank all of you who reviewed for this year’s meeting and all my colleagues on the SPC for their hard work and time they have spent helping to put together a tremendous program for the meeting in Toronto.

See SPC Report page 4

You Can Help the ISMRM Avoid Hotel Penalties for the Annual Meeting

This Year Look Out For

- Wireless access for email and internet browsing. This will be our first year trying this out— see below for details and please let us know what you think of the idea.
- The *Lauterbur Lecture* from Norman Ramsey— one of the ten Nobel prize winning students of Isidor Rabi— telling us about Rabi's Legacy.
- The *Toronto Keynote Lecture* from Rod Pettigrew talking about NIBIB and the future.
- Evening entertainment at the CN Tower.
- Seven excellent Morning Categorical Courses worth getting out of bed early for.
- Zoomerang surveys that will allow us to improve the meetings and respond to what you as an ISMRM member would like to see us change or introduce.

Wireless in Toronto

This year, ISMRM is pleased to announce that wireless internet access will be available at the 2003 Annual Meeting in the Metro Toronto Convention Centre. The 800-level corridor will be covered by several access points, which should assure good bandwidth. While there are several competing protocols available (such as Blue Tooth and 802.11a), the ISMRM will be using the WiFi standard, 802.11b. If you have a wireless network card and it is compatible with 802.11b, you will be able to enjoy the use of the service. 802.11b cards are sold at most major retailers and run in the US\$50 to US\$100 price range.

The network itself will use DHCP (Dynamic Host Configuration Protocol) to assign IP addresses (necessary to access the internet) so that most users will simply 'plug-n-play' on to the network. Windows XP users will automatically detect the wireless network and be given the option to connect. Non-Windows XP users will have to use the driver that came with their wireless network card to do a site survey and then connect to the wireless "network."

— David J. Lomas
Chair, 2003 Scientific Program Committee

The ISMRM wishes to assure its delegates to the Annual Meeting of two things: Not only will they have a wide range of hotels and prices from which to choose, but these hotels will also be clean, safe, and in good proximity to the convention centre.

There is a cost to the Society to meet these criteria. A considerable amount of time and effort is spent choosing and personally inspecting every hotel, negotiating the lowest group rates possible, and signing contract agreements to insure that rooms will be available over the meeting dates at the group rates. The ISMRM does not make money from the hotels. Instead, many hotel contracts stipulate that the ISMRM must fill a certain percentage of the rooms it blocks to avoid attrition liability.

Up until two years ago, because of the high demand and high hotel occupancy, the hotels were in a position to sell their rooms at a higher rate because there was little short-term availability. It was a seller's market. The ISMRM believed it was necessary to block and contract rooms at the time the decision was made to hold our annual meeting in a particular city in order to insure availability for our delegates. As a result, many contracts were signed five or even six years out from the Annual Meeting.

The events of 11 September 2001 greatly impacted business travel, and negotiations shifted to a buyer's market. This has allowed the ISMRM more flexibility to negotiate favorable rates and terms with hotels. However, few hotels agree to contracts without attrition penalties, which essentially guarantees them a certain amount of revenue whether the rooms are sold or not. If the block does not fill up, the hotel's revenue shortfall is paid by the ISMRM. This amount can add up to thousands of dollars in liability to the ISMRM at each hotel under contract.

The Internet has also created opportunity for attendees to book outside the official block when hotels sell any remaining inventory at reduced rates— often lower than those negotiated by the ISMRM for our meeting attendees. While shopping the Internet for a lower rate than the ISMRM rate may benefit the attendee in the short term, it can mean huge and costly penalties to the ISMRM if the contracted blocks fail to meet the required minimums. It also reduces our ability to contract and negotiate an adequate number of rooms in future venues, because the reported pickup history is less than we actually utilize for our Annual Meeting.

To eliminate attrition liability to the ISMRM, we have looked at the possibility of not contracting blocks at the hotels and having attendees book their rooms directly. The ISMRM is not a city-wide convention (a group that utilizes all available hotels in a city). We often share space in a convention center with other organizations over our meeting dates, creating a high demand for hotel rooms— not only for our attendees but for the other organization's as well. Thus, without contracted room blocks, an adequate supply of hotel rooms close to the convention center may not be available over the meeting dates to accommodate ISMRM attendees, and if there is availability, attendees will likely have to pay premium rates to reserve a room.

The ISMRM has been fortunate over the past few years to avoid any attrition penalties; many associations have not fared as well. We will continue to do our best to insure our delegates the best rates possible at hotels that meet our selection criteria. In turn, we ask you to help the ISMRM reduce any potential liability for unused rooms by using the official housing company to book your hotel room for the Annual Meeting. If you do not see your hotel preference on the official hotel list, please call our housing company for advice.

See You Can Help page 5

**For hotel availability and reservations for the ISMRM
11th Scientific Meeting & Exhibition, please contact:**

Convention Housing Management

1700 The Alameda, 2nd Floor ~ San Jose, CA 95126 ~ U.S.

Tel: +1 800 422-8996 (Toll-free within the U.S.)

+1 408 918-4200 (Outside the U.S.)

Fax: +1 408 918-4250

E-mail: ismrm@chmrooms.com

If you have any questions or suggestions, please do not hesitate to call Roberta Kravitz, ISMRM Director of Meetings (Tel: +1 510 841-1899) or E-mail (Roberta@ismrm.org). The ISMRM appreciates your continued support of its activities and your understanding of the complex issues that housing presents to our growing association.

— Roberta A. Kravitz
ISMRM Director of Meetings

TRAVEL INFORMATION

Customs/Entry Information

From the United States:

U.S.-born citizens should carry a passport or a birth certificate plus photo I.D. Naturalized citizens need naturalization certificates with photo I.D. Permanent residents (who are not citizens) need an alien-registration card.

From outside the United States:

Visitors from countries other than the U.S. must have a valid passport, and a visa may be required. For additional information regarding visas, call the Citizen and Immigration Canada office at +1 819 994 2424 or go to <http://cicnet.ci.gc.ca>.

Currency Exchange

The money system in Canada is based on dollars and cents. International currency exchange services are available at the Lester B. Pearson International Airport (LBPIA), as well as banks and currency exchange outlets located throughout the city.

Electric Voltage

The electrical voltage system in Canada is 110 volts. If you are traveling from a country outside of North America, you will need a proper voltage converter and adapter in order to operate your electrical appliances.

Climate

The climate in Toronto is temperate, comparable to many American cities such as New York and Chicago. In terms of its placement on the globe, Toronto is parallel to Florence and south of Paris and London. During the summer, Toronto averages 26°C (80°F). In the winter the temperature dips below freezing but snow abounds. In May, high temperatures average 17.9°C (64.3°F), dipping to lows of 8.4°C (47.2°F). The city's average rainfall is 68.9 cm./27.25 in., while it averages 135 cm./53.2 in. of snowfall every year.

Ground Transportation

The Lester B. Pearson International Airport (LBPIA) is located 27 km (16 miles) northwest of downtown Toronto. There are many ways to travel to and from Pearson Airport—by car, public transit, inter-city buses, taxis, or limousines. GO Transit, telephone: +1 416 869 3200; Pacific Western Airport Express, telephone: +1 905 564 6333; and the Toronto Transit Commission (TTC), telephone: +1 416 393 4636, provide regular public transit service to and from Pearson Airport. For information on transportation rates, schedules and fares, ground transportation information counters can be found on the arrival level of each terminal.

SMRT Forum at the 11th Scientific Meeting of the ISMRM: MR Purchase Decisions

I would like to invite all ISMRM and SMRT members to attend the “*SMRT Forum on MR Purchase Decisions*” being held on Monday afternoon, 12 May 2003. We will be getting information not only from well-known technologists in our field, but also from radiologists who have been involved in setting up hospital-based or free-standing centers. This will be a great chance to get feedback from all the experts within a two-hour period.

— Nanette Keck, 2003 SMRT Forum Organizer

EDUCATIONAL OBJECTIVES

Upon completion of this course, participants should be able to:

- Describe the various types of MR systems available today;
- List the major differences between systems;
- Describe the advantages and disadvantages of each;
- Explain how various system components impact MR image quality;
- Explain the system requirements for various types of MR procedures.

SMRT Forum: MR Purchase Decisions

MONDAY, 12 MAY 14:00 - 16:00

Program Topics and Speakers

14:00

Analytic Approach to Equipment, Finances, Compatibility, Site Preparation, PACs, and Delivery
Herbert Y. Kressel, M.D.

14:30

Dedicated vs. Whole Body Scanning
William Faulkner, B.S., R.T. (R)(MR)(CT)

15:00

1.0/1.5 T vs. Low-field
James J. Stuppino, B.S., R.T. (R)(MR)

15:30

1.5T vs. 3T
Gary H. Glover, Ph.D.

16:00

Adjournment

WEEKEND EDUCATIONAL PROGRAMS
SATURDAY, 10 MAY 2003

NEUROIMAGING- DAY 1	ADVANCED BODY MRI – DAY 1	MR PHYSICS FOR PHYSICISTS – DAY 1	BRAIN FUNCTION AND fMRI – DAY 1	MR SPECTROSCOPY: BASICS AND CLINICAL APPLICATIONS	CARDIAC IMAGING	RF BOOTCAMP
09:00 to 17:50 Room 716 A/B	08:30 to 17:40 Room 717 A/B	08:30 to 17:50 Room 718 B	08:30 to 17:45 Room 715 A/B	08:30 to 18:00 Room 713 A/B	08:30 to 18:00 Room 714 A/B	08:00 to 17:50 Room 718 A
SMRT TECHNOLOGIST PROGRAM - DAY 1 07:45 to 17:30 Room 701 A/B						

SUNDAY, 11 MAY 2003

NEUROIMAGING- DAY 2	ADVANCED BODY MRI – DAY 2	MR PHYSICS FOR PHYSICISTS – DAY 2	BRAIN FUNCTION AND fMRI – DAY 2	MR SPECTROSCOPY: FRONTIER METHODOLOGY AND APPLICATIONS	SPORTS MEDICINE MRI: CLINICAL AND TECHNICAL UPDATE	MR OF TRANSGENIC MOUSE MODELS (MR OMICS)
08:30 to 15:00 Room 716 A/B	08:00 to 15:00 Room 717 A/B	08:00 to 14:50 Room 718 B	08:40 to 15:10 Room 715 A/B	08:00 to 15:00 Room 713 A/B	08:00 to 15:10 Room 718 A	08:00 to 15:00 Room 714 A/B
SMRT TECHNOLOGIST PROGRAM - DAY 2 07:45 to 17:30 Room 701 A/B						
12:00 to 13:30 Hall F/G LUNCH – GOLD CORPORATE SYMPOSIUM Berlex Imaging/Schering AG Germany “MRI: From Current Knowledge to New Horizons”						
STUDY GROUPS						
Diffusion and Perfusion MR Study Group	Psychiatric MRS and MRI Study Group	High Field Systems and Applications Study Group	Interventional MR Study Group	MR Flow and Motion Quantitation Study Group	Musculoskeletal Imaging Study Group	
15:30 - 17:30 Room 718 B	15:30 - 17:30 Room 713 A/B	15:30 - 17:30 Room 718 A	15:30 - 17:30 Room 717 A/B	16:30 - 17:30 Room 716 A/B	15:30 - 17:30 Room 714 A/B	
OPENING RECEPTION 17:45 to 19:15 Technical Exhibition area of Exhibit Hall D						

ISMRM 11TH SCIENTIFIC MEETING

MONDAY, 12 MAY 2003

07:45 WELCOME and Medal Presentations, *Richard L. Ehman, President*08:20 2003 LAUTERBUR LECTURE:
*The Legacy of I.I. Rabi, Norman F. Ramsey*09:00: THE TORONTO KEYNOTE LECTURE: Future Directions in Funded Biomedical Imaging Research, *Roderic I. Pettigrew*

PLENARY LECTURES: IMAGING IN CHRONIC DISEASE

09:25: Neurodegenerative Diseases and Epilepsy, *Michael Weiner*09:50: The Burden of (Musculoskeletal) Disease: Challenges in Imaging for Diagnosis and Prognosis, *Maarten Boers*

HALL F/G

10:15 - 11:00

COFFEE BREAK

11:00 - 13:00

ORAL SESSIONS AND CLINICAL CATEGORICAL

Physiology, Disease, and Drug Abuse	Clinical Categorical: Cardiovascular MRI	Parallel Imaging Techniques	Epilepsy: MR Imaging, Spectroscopy, and Imaging Analysis	Cancer: MRI of Model Systems	Functional Renal MRI	Musculo-skeletal MRI: Cartilage	Diffusion Tensor Acquisition Methods	Thermo-therapy
718 A	718 B	701 A	701 B	714 A/B	716 A/B	713 A/B	715 A/B	717 A/B

13:00 - 14:00

Hall F/G

LUNCH – GOLD CORPORATE SYMPOSIUM

Siemens Medical Solutions

“Leading Experts Choose Siemens”

14:00 - 16:00

POSTER SESSION, SMRT FORUM, AND CLINICAL SCIENCE FOCUS SESSIONS

POSTER SESSION	Clinical Science Focus Session: Peripheral MRA: Time Resolved vs. Flow Arrested	SMRT Forum: MR Purchase Decisions	Clinical Science Focus Session: Micro and Macro Vascular Imaging of Cerebro-vascular Disease	Clinical Science Focus Session: Musculoskeletal MRI: Clinical Studies
EXHIBIT HALL D	718 A	718 B	701 B	713 A/B

16:00 - 16:30

COFFEE BREAK

16:30 - 18:30

ORAL SESSIONS AND EDUCATIONAL COURSE

fMRI (Neuro): Physiological Measurement and Applications	MR Physics and Techniques for Clinicians	Contrast Agents and Relaxometry	Clinical Human Brain MRS	Flow Quantitation	Vessel Wall MR Imaging	Body MR at 3T?	Cognitive and Psychiatric Disorders	Mouse Phenotyping: MR Omics
718 A	718 B	701 A	701 B	714 A/B	716 A/B	713 A/B	715 A/B	717 A/B

18:30 - 20:00

BRONZE CORPORATE MEMBER SYMPOSIA

Mallinckrodt, Inc.

“Delayed Contrast Enhancement in Cardiovascular Imaging”

Hall F/G

19:30 - 21:30

STUDY GROUPS

Cardiac MR Study Group	MR Engineering Study Group	MR of Cancer Study Group	White Matter Diseases Study Group	Dynamic NMR Spectroscopy Study Group	Hyperpolarized Noble Gas MR Study Group	MR in Drug Research Study Group
Room 718 A	Room 716 A/B	Room 718 B	Room 717 A/B	Room 714 A/B	Room 713 A/B	Room 701 A

TUESDAY, 13 MAY 2003

07:00 - 08:00 **Morning Categorical Courses:** **Controversies and Advances in Musculoskeletal MRI**, Room 713 A/B
Parallel Imaging, Room 714 A/B
Emerging Body MR: From Structure to Function, Room 715 A/B
fMRI Experimental Methods, Room 718 B
Diffusion Tensor Imaging, Room 718 A
Advanced MR Angiography Techniques, Room 716 A/B
Spectroscopy Beyond NAA, Room 717 A/B

PLENARY LECTURES: SAFETY AND MRI

08:15: **Physiological Limits of MR**, *John Schenck*

08:40: **MR Regulatory Bodies and Regulations**, *Loren A. Zaremba*

09:05: **Staying Below the Legal Limits at Optimized MR System Performance**, *Franz Schmitt*

HALL F/G

09:30 - 10:30

COFFEE BREAK

10:30 - 12:30

ORAL SESSIONS AND CLINICAL CATEGORICAL

Fast Imaging Sequences: Pushing the Limit	Clinical Categorical: High Field Neuroimaging	fMRI (Neuro): Spatial and Temporal Characteristics	New Contrast Agents	MR Safety and Bioeffects	Diffusion Analysis I: Tracts and Errors	Peripheral MR: Technical Developments	Spectroscopic Quantitation	Neuro MR: Inflammation and Encephalopathy
718 A	718 B	701 A	701 B	714 A/B	716 A/B	713 A/B	715 A/B	717 A/B

12:30 - 13:30
Hall F/G

LUNCH – GOLD CORPORATE SYMPOSIUM
GE Medical Systems

13:30 - 15:30

POSTER SESSION, SYMPOSIUM, CLINICAL SCIENCE FOCUS SESSION, AND BASIC SCIENCE FOCUS SESSIONS

POSTER SESSION	Hot Topics for Clinical Practice	Basic Science Focus Session: Cancer: Perfusion and Permeability	Basic Science Focus Session: Neurodegeneration: From Mouse to Man	Clinical Science Focus Session: Assessing Breast Tissue with MR
EXHIBIT HALL D	718 A	718 B	701 B	713 A/B

15:30 - 16:00

COFFEE BREAK

16:00 - 18:00

ORAL SESSIONS AND EDUCATIONAL COURSE

Artifact Reduction in Rapid Imaging	MR Physics and Techniques for Clinicians	Experimental Stroke and Other Disease Models	Vascular Interventions	Body MRA Techniques	Pediatric Brain MRS	Bowel MR: Form and Function	fMRI of Novel Animal Systems	Cardiac Stem Cells
718 A	718 B	701 A	701 B	714 A/B	716 A/B	713 A/B	715 A/B	717 A/B

18:30 - 20:00

BRONZE CORPORATE MEMBER SYMPOSIA

Bracco

“New Frontiers in Body and Brain MR Perfusion Imaging”

Hall F/G

Bruker BioSpin MRI, Inc.

“Functional and Molecular Imaging of the Brain”

Room 718 A

ISMRM 11TH SCIENTIFIC MEETING

WEDNESDAY, 14 MAY 2003

07:00 - 08:00 **Morning Categorical Courses:** **Controversies and Advances in Musculoskeletal MRI**, Room 713 A/B
Parallel Imaging, Room 714 A/B
Emerging Body MR: From Structure to Function, Room 715 A/B
fMRI Experimental Methods, Room 718 B
Diffusion Tensor Imaging, Room 718 A
Advanced MR Angiography Techniques, Room 716 A/B
Spectroscopy Beyond NAA, Room 717 A/B

PLENARY LECTURES: THE RF RENAISSANCE08:15: **A History of RF Coils**, *Eiichi Fukushima*08:40: **Development and Challenges of High Field Probes**, *David I. Hoult*09:05: **Parallel MRI: Breaking the Acquisition Speed Limit Using RF Coil Arrays**, *Joseph V. Hajnal*

HALL F/G

09:30 - 10:30

COFFEE BREAK

10:30 - 12:30

ORAL SESSIONS AND CLINICAL CATEGORICALS

Techniques in Cardiac MR	Clinical Categorical: Interventional MRI	Clinical Categorical: Imaging in Drug Development	fMRI Data Analysis I	Diffusion Tensor Imaging: Clinical Applications	Pulmonary MR: Perfusion, Embolism, and Lung Masses	Hepatobiliary MRI	RF Coils	¹ H MRS of Human Brain: Techniques and Insights
718 A	718 B	701 A	701 B	714 A/B	716 A/B	713 A/B	715 A/B	717 A/B

12:30 - 13:30
Hall F/G

LUNCH – GOLD CORPORATE SYMPOSIUM

Amersham Health*"Battle of the Protocols"*

13:30 - 15:30

POSTER SESSION, CLINICAL SCIENCE FOCUS SESSIONS, AND BASIC SCIENCE FOCUS SESSIONS

POSTER SESSION	Basic Science Focus Session: Artifact Correction	Basic Science Focus Session: New Frontiers in Cardiovascular MR	Clinical Science Focus Session: Musculoskeletal MRI: Feasibility Studies	Clinical Science Focus Session: Functional Abdominal and Pelvic MRI
EXHIBIT HALL D	718 A	718 B	716 A/B	713 A/B

15:30 - 16:00

COFFEE BREAK

16:00 - 18:00

ORAL SESSIONS AND EDUCATIONAL COURSE

Coil Array Design for Parallel Imaging	MR Physics and Techniques for Clinicians	Image Reconstructions	fMRI Data Analysis II	Cerebral Fine Structure: DTI and Manganese-Induced Contrast	Imaging Hyperpolarized Gases	Spectroscopic Localization and Imaging	Clinical Cancer MRI	Pediatric Neuro MRI
718 A	718 B	701 A	701 B	714 A/B	716 A/B	713 A/B	715 A/B	717 A/B

18:15 - 19:15
Room 718 A

ISMRM BUSINESS MEETING

THURSDAY, 15 MAY 2003

07:00 - 08:00 **Morning Categorical Courses:** **Controversies and Advances in Musculoskeletal MRI**, Room 713 A/B
Parallel Imaging, Room 714 A/B
Emerging Body MR: From Structure to Function, Room 715 A/B
fMRI Experimental Methods, Room 718 B
Diffusion Tensor Imaging, Room 718 A
Advanced MR Angiography Techniques, Room 716 A/B
Spectroscopy Beyond NAA, Room 717 A/B

PLENARY LECTURES: EVALUATION OF ISCHEMIC HEART DISEASE BY MRI

08:15: **Current State of the Art**, *Jan Bogaert*

08:40: **What's on the Horizon**, *Charles B. Higgins*

09:05: **What Does the Future Behold?**, *Elliot R. McVeigh*

HALL F/G

09:30 - 10:30

COFFEE BREAK

10:30 - 12:30

ORAL SESSIONS AND CLINICAL CATEGORICAL

Novel MRI Sequences	Clinical Categorical: Cardiovascular MRI	fMRI Insights into Language and Cognition	Brain Metabolism: Carbon-13 and Beyond	Elastography and Diffusion: New Developments	Diffusion Analysis II: Beyond the Tensor	Breast MR	Image Processing: Brain	Cancer: MRS of Model Systems
718 A	718 B	701 A	701 B	714 A/B	716 A/B	713 A/B	715 A/B	717 A/B

12:30 - 13:30
Hall F/G

LUNCH – GOLD CORPORATE SYMPOSIUM
Philips Medical Systems
"Changing How the World Looks at MR. Everywhere."

13:30 - 15:30

POSTER SESSION, CLINICAL SCIENCE FOCUS SESSION, AND BASIC SCIENCE FOCUS SESSIONS

POSTER SESSION	Clinical Science Focus Session: Ischemic Heart Disease	Basic Science Focus Session: Brain Perfusion: New Methods and Issues	Basic Science Focus Session: ESR, Oxygenation, and Sodium
EXHIBIT HALL D	718 A	701 B	714 A/B

15:30 - 16:00

COFFEE BREAK

16:00 - 18:00

ORAL SESSIONS AND EDUCATIONAL COURSE

Myocardial Perfusion and Viability	MR Physics and Techniques for Clinicians	fMRI of Human Sensory, Motor, and Visual Systems	ASL Brain Perfusion: Technical Issues	MR Spectroscopy: Compounds and Signals	Interventional MRI	New Frontiers in Body MRI	Cardiovascular Image Processing	RF: From Soup to Nuts
718 A	718 B	701 A	701 B	714 A/B	716 A/B	713 A/B	715 A/B	717 A/B

CLOSING EVENING RECEPTION
18:15
CN Tower

ISMRM 11TH SCIENTIFIC MEETING

FRIDAY, 16 MAY 2003

07:00 - 08:00 **Morning Categorical Courses:** **Controversies and Advances in Musculoskeletal MRI**, Room 713 A/B
Parallel Imaging, Room 714 A/B
Emerging Body MR: From Structure to Function, Room 715 A/B
fMRI Experimental Methods, Room 718 B
Diffusion Tensor Imaging, Room 718 A
Advanced MR Angiography Techniques, Room 716 A/B
Spectroscopy Beyond NAA, Room 717 A/B

PLENARY LECTURES: THE TUMOR MICROENVIRONMENT

08:15: **Mechanisms Underlying Tumor Microenvironmental Pathophysiology**, *Mark W. Dewhirst*

08:40: **MRI and MRS Studies of Tumor Pathophysiology**, *Robert J. Gillies*

09:05: **EPR Studies of Tumor Oxygenation**, *Bernard Gallez*

HALL F/G

09:30 - 10:30

COFFEE BREAK

10:30 - 12:30

ORAL SESSIONS

Coronary MR Imaging	fMRI (Neuro) Imaging Techniques	New Concepts in Magnets and Gradients	Cancer: Clinical MRS Comes of Age	Neck & Spine MRI: The Cutting Edge	Image Processing: New Techniques	Musculo-skeletal MR: Functional Imaging and Spectroscopy	Neurological MR	MR Microscopy
718 A	718 B	701 A	701 B	714 A/B	716 A/B	713 A/B	715 A/B	717 A/B
12:30								
ADJOURNMENT								



TORONTO: An International Home Away From Home

Looking forward to the ISMRM 11th Scientific Meeting & Exhibition in Toronto, Ontario, Canada, we have compiled some useful information to help you plan your trip to this beautiful destination in May of 2003.

Toronto is an ideal place to meet. In fact, the settlers of the city's predecessor, York, seemed to think so, too. On 6 March 1834, they rechristened the settlement Toronto, the Mohawk term for "meeting place."

The city is a world unto itself. Bursting with multiculturalism, Toronto is considered to be the most ethnically diverse city in North America, more so than New York or Los Angeles. Within the city's boundaries, 80 different cultures and 100 different languages are represented, and, according to census data collected in 2001, almost one-fifth of Toronto's population has been in Canada less than ten years. Toronto is truly overflowing with cultural magnetism.

The sites to see in Toronto are as varied and unique as its people. The region's rich heritage can be gleaned from a visit to Black Creek Pioneer Village where a Victorian community of the 1860s has been restored, right down to its homes, farms, and public buildings. Fort York also presents an opportunity to glimpse Toronto's past. Currently, the fort serves as a museum displaying the most comprehensive collection of relics from the War of 1812.

Toronto's storied past resonates deeply within the city, as does the promise of the future. The CN Tower, reaching further towards the heavens than any other free-standing structure in the world, is certainly Toronto's most evident attraction. An architectural triumph, the tower is topped by a revolving restaurant which affords breathtaking views of the city, as does the tower's glass floor which only the most courageous can appreciate!

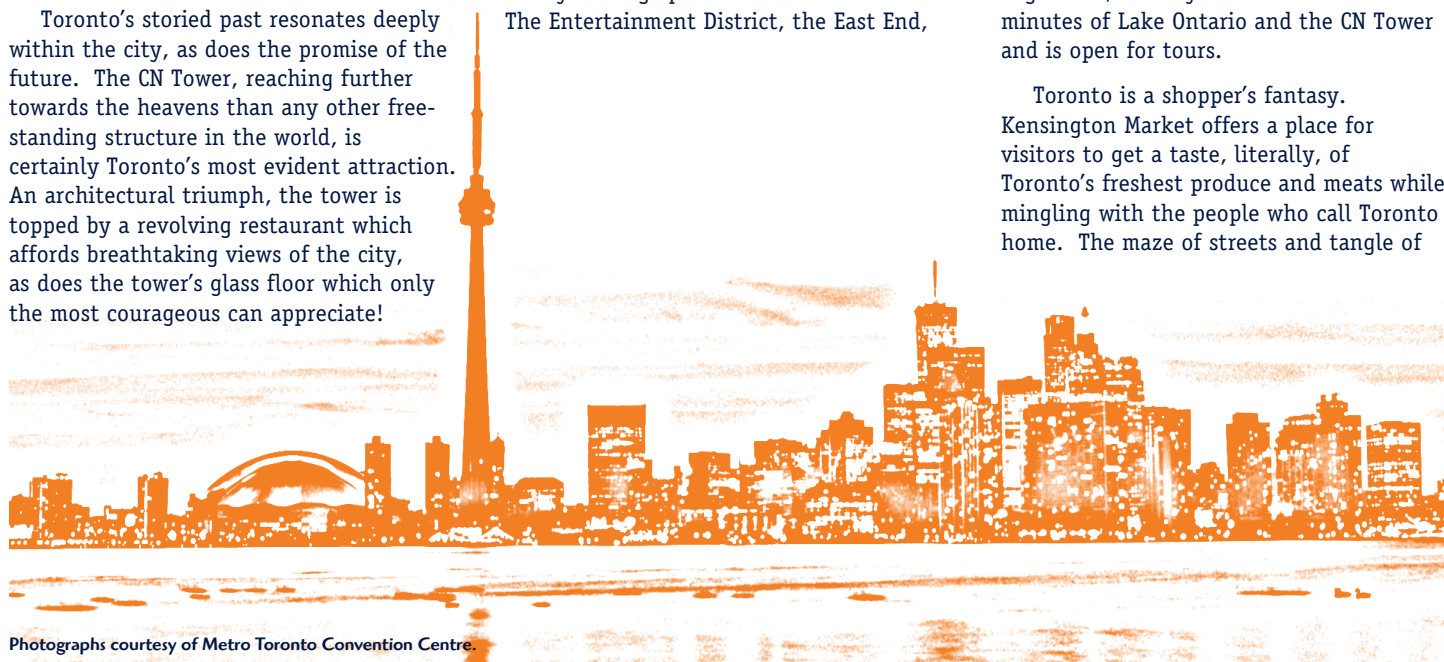
A trip to one of the city's leading art museums is a must for those seeking cultural enrichment. The Art Gallery of Ontario (AGO) is Toronto's largest and most well-known museum. The AGO's permanent collection showcases works from the Middle Ages up through contemporary times. The internationally renowned Royal Ontario Museum explores Canada's cultural and natural history. The museum is comprised of over 45 galleries that focus on art, archaeology, and science. For visitors searching for something a bit different, the Bata Shoe Museum is a rare find. A cultural gem unique to Toronto, the museum's collection consists of over 10,000 shoes and represents 4,500 years of history. The Perfect Pair: Wedding Shoes Stories Exhibition will be on display until 25 May 2003.

Another way to enjoy Toronto's rich and heterogeneous culture is by visiting one of the city's many theatres. Rivalled only by New York and London, Toronto's thriving theatre scene comes alive daily with musicals, symphony, dance, comedy, drama, and more. Stunning visuals and incredible artistry distinguish Toronto's nearly 75 stage productions a month. The Entertainment District, the East End,

and the Annex all offer shows of various subject and size, from homegrown tales to international favorites. Choosing which show to see is a challenge faced by many of Toronto's visitors!

Sports add a thrilling element to Toronto's milieu. Four professional sports teams reside in the city: The Maple Leafs (hockey), The Argonauts (football), The Raptors (basketball), and The Blue Jays (baseball). A favorite destination among sports enthusiasts is the Hockey Hall of Fame. The Hall of Fame is more than just a museum, it is a place for fans to gather and enjoy a plethora of interactive exhibits and "virtual reality" games. For Wayne Gretzky devotees, several artifacts from his career are on display. The SkyDome is another attraction popular among sports fanatics. Home to the Blue Jays and the Argonauts, the SkyDome is located within minutes of Lake Ontario and the CN Tower and is open for tours.

Toronto is a shopper's fantasy. Kensington Market offers a place for visitors to get a taste, literally, of Toronto's freshest produce and meats while mingling with the people who call Toronto home. The maze of streets and tangle of



Photographs courtesy of Metro Toronto Convention Centre.



ferrying visitors to this natural wonder since 1846! From Canada, visitors may access the Falls from Queen Victoria Park.

For those willing to travel a bit further afield, day-trip-musts include Paramount Canada's Wonderland, the Toronto Zoo, and the Ontario Science Centre. Visitors looking for an adrenaline rush will find one at Paramount Canada's Wonderland, proudly known as Canada's leading theme park.

shops are a feast for the eye and the pocketbook! St. Lawrence Market, the city's largest, proffers a variety of everyday and gourmet foods and features Paddington Pump, where weary shoppers can enjoy a quick drink and bite to eat. No trip to Toronto is complete without a stroll through the Toronto Eaton Centre. More than just a place to shop, the Centre is a veritable complex of almost 300 shops, eateries, and guest services including a ticket kiosk where theatre-goers can purchase discount tickets. Yonge Street, dividing the city into east and west, is a trip in itself. Commonly referred to as the longest street in the world, Yonge Street allows visitors to enjoy a variety of cuisines and street wares with the multitudes of local passersby.

Located on the shores of Lake Ontario, Toronto is a city of serene beauty. Many parks and elegant gardens offer nature-lovers the chance to enjoy Toronto's fresh, clean air. For those looking for a place to picnic, hike, or partake in a game of chess, High Park is the perfect destination. Within the boundaries of this vast, natural environment, High Park offers wooded areas, a pond, a greenhouse, and even a zoo! Edwards Gardens and Allan Gardens come alive with Toronto's most glorious floral exhibits. Both are popular among photographers and visitors alike. Of course, for those who really want to experience the rush of mother nature, Niagara Falls beckons. The Falls, a fantastic culmination of the Canadian Horseshoe Falls and the American Falls has been delighting onlookers as long as any other attraction in North America. In fact, the Maid of the Mist fleet, which docks near Rainbow Bridge, has been busily

Rides and attractions for all ages, along with live performances and a waterpark make this theme park worth the trip. The Toronto Zoo, home to more than 5,000 animals, is a true crowd-pleaser. Nestled in the northeast region of Toronto, the zoo offers visitors the chance to discover exotic beasts from around the world as well as peek at the zoo's newest arrival: a two-humped Bactrian male baby camel. The Ontario Science Centre is a place where kids and adults get to lose themselves in the fascinating world of science and technology. The Centre houses more than 800 exhibits and features displays on sports, space, and the human body. Added attractions are its OMNIMAX movie theatre, special demonstrations, and programs designed just for kids.

With all there is to do in Toronto, visitors are sure to work up a hearty appetite. For those with a taste for fine



Photograph courtesy of Ontario Science Centre.

dining, Toronto locals recommend The Fifth, JOV Bistro, and Adriatico Ristorante. If take-out is desired, visitors are encouraged to try Dipamo's Barbecue or Pita Pan. For cheap eats, many choose Spring Rolls, Green Mango Thai Food, and 97 Bistro & Tapas Bar. When there is a game to watch, sports fans opt for Wayne Gretzky's Restaurant and Hoops Sports Bar & Grill. To satisfy a seafood craving, Starfish Oyster Bed and Grill does the trick. And, of course, for those looking for fun and reliably good food, there is always the Hard Rock Café.

Despite its size, Toronto is easy to explore. The city is linked by a world-class public transit system. The subway, bus and streetcar routes are easy to navigate for those unfamiliar with Toronto. An added bonus for visitors who love to explore on foot is the PATH, a nearly 11 kilometer underground pathway connecting the city's most popular destinations. Neighborhoods such as Chinatown, Little Italy, and Little Portugal, among others, feature dual-language street signs further enabling trouble-free exploration. While the official languages of Toronto are English and French, English is considered the predominant language.

It is plain to see why Toronto is considered "the world within a city." Every facet of Toronto reflects its deep investment in ethnic diversity: from its neighborhoods to its art, from its food to its nightlife. For these reasons alone Toronto is more than a great place to meet, it is truly an international home away from home.

Report on the ISMRM Workshop on MR of Childhood White Matter Disorders

The second workshop of ISMRM's White Matter Study Group (WMSG), was convened in Rotterdam, The Netherlands, from 11-13 September 2002. The topic chosen for this meeting was **MR of Childhood White Matter Disorders**.

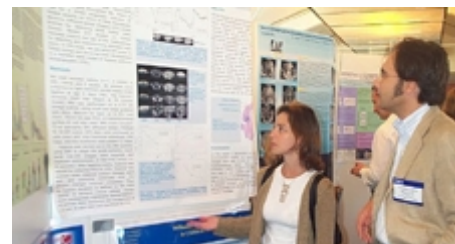
The organizing committee consisted of Frederik Barkhof and Petra Pouwels, along with (Society Gold Medalists) Jaap Valk and Marjo van der Knapp, all of the Vrije Universiteit Medical Center, Amsterdam, The Netherlands. The venue, in the city center of Rotterdam, allowed 110 participants to join in plenary sessions, participate in smaller group "workshops," and enjoy breaks and meals as a group. Posters were available for viewing in the lunch/coffee room, and the environment was generally conducive to lively interaction. A social program was included, largely due to the efforts of Professor Valk, who organized a spectacular dinner cruise through the port of Rotterdam. Conference attendees also enjoyed exploring Rotterdam on their own, finding interesting public art, fascinating modern architecture, easy transport, and dining ranging to "Parkheuvel," the only Michelin three-star restaurant in Holland. A variety of backgrounds and interests were represented at the meeting, including those of clinicians, researchers, and educators. Some came to Rotterdam to share exciting and novel results, others to acquire good ideas to take home. Many attendees and invited lecturers were among the most well-known in the field, and others had only recently been attracted to it. All appeared to have an enjoyable and productive time.

Following last year's successful WMSG workshop devoted primarily to multiple sclerosis (MS), it had been announced that the group would, on alternate years, focus on white matter diseases "other than MS." This workshop on childhood disease represented the first of the "non-MS" gatherings. In the words of the workshop organizers, "[Childhood white matter disorders] constitute a vast group of diseases that pose challenges in terms

of interpretation and diagnosis, while on the other hand offering a unique model to improve our understanding of how histopathological alterations determine physical MR properties."

The workshop was designed to address educational objectives such that attendees would:

1. Describe and explain normal brain development as seen by MR imaging;
2. Apply and interpret MR spectroscopy to probe metabolic changes in childhood white matter diseases (CWMD);
3. Design an appropriate MR imaging protocol to routinely detect CWMD;
4. Apply advanced MR techniques to differentiate CWMD;
5. Recognize CWMD and interpret MR images to provide a (differential) diagnosis;
6. Select and evaluate techniques to monitor evolution and treatment of CWMD.



Matilde Inglese and Alberto Bizzi discuss a poster.

The conference was organized into larger topical areas, each of which was introduced and developed by invited lectures. Additionally, each topical area was addressed from a variety of stand-points by basic scientists and clinicians.

Following a brief, but appreciated, recognition of the significance of September 11 to many of the attendees, the first day was devoted to normal white matter in neonates, infants, and children. As would be the pattern throughout the conference, it began with a survey of the underlying fundamentals, in this case myelin and myelination. Bernard Zalc discussed structural and functional



Some members of the faculty gather on the terrace. Seated from left: Joseph McGowan, Jeff Bulte, Lishya Liauw. Standing from left: Frederik Barkhof, Marjo van der Knapp, Klaas Nicolay, Jane McGowan, Peter van Zijl, Jaap Valk, and David Miller.

changes as well as triggers for myelination. Marie Vanier continued with changes in composition of white matter and myelin maturation. Following this, a series of talks surveyed the use of MRI and MRS to explore brain maturation, including conventional imaging (Charles Raybaud), diffusion imaging (Volker Engelbrecht), MR Spectroscopy (Petra Pouwels), magnetization transfer (Joseph McGowan), fMRI (Ernst Martin) and a selection of new developments including applications of diffusion tensor imaging (Peter van Zijl).

The next segment of the workshop was devoted to three parallel sessions designed to offer guidance to practitioners who wished to apply some of the techniques discussed earlier in the day. In these an overview of the technique was followed by (or interleaved with) ample time for questions and discussion. The session on diffusion-weighted imaging was led by Peter van Zijl, one on fMRI was led by Ernst Martin, and Joseph McGowan conducted a tutorial on magnetization transfer.

Day 2 of the workshop began with a session on inflammatory white matter disorders in children, and included invited talks covering ADEM/MS (Folker Hanefeld) and encephalitis (Charles Raybaud). Dr. Raybaud emphasised that viral encephalitis, though relatively rare in developed countries, was a serious world health problem. He further articulated the challenge of differentiating these diseases from others with similar clinical and MRI presentation. Marjo van der Knapp discussed congenital cytomegalovirus and emphasized that it may affect up to 2% of live births, but is relatively asymptomatic in over 90% of cases. Lishya Liauw explained CNS vasculitis, and a summary of lessons from MS research was given by David Miller. Professor Miller suggested a number of goals for the application of MRI in the future, specifically assessment of remyelination, fiber tracking, and cellular level imaging.

The following session was devoted to hypoxic-ischemic white matter damage, with Jane McGowan providing a basic

science perspective in *"Concepts of Regional Vulnerability in Neonates,"* followed by Frederick Barkhof who discussed MRI features of periventricular leukomalacia, and Klaas Nicolay, who presented the contribution of MRS to understanding energy failure in the neonatal brain.

After lunching on typical Netherlands fare including croquettes and a variety of fish courses, and enjoying the piano artistry of Professor Valk, we returned to the auditorium for platform presentation of 11 proffered papers from five countries, covering a variety of recent MRI applications. Some highlights of these presentations included a suggestion by Ali Fatemi and collaborators that MRSI could assist in the diagnosis of childhood acute disseminating encephalomyelitis, by virtue of the observation in their patients of reduced NAA but near normal choline. Martha Herbert reported that atrophy of the corpus callosum was found in pediatric MS, and Tarja Linnankivi presented an elegant study of 18-q syndrome, from which she concluded that poor gray-white differentiation was a typical finding. This latter was recognized by the conference organizers as the most outstanding platform presentation. A poster documenting a study of white matter maturation using high b-value diffusion-weighted imaging, and given by Liat Ben Sira (with first author, Dafna Ben Bashat), was similarly identified as the finest poster of the workshop. Following the platform presentations we made our way to the harbor for the aforementioned dinner cruise, providing further opportunities for discussion as well as a pleasant diversion.

The final day of the conference began with a session on hereditary childhood leukoencephalopathies. The underlying pathology was surveyed by Jean-Jacques Martin, and biochemical changes were discussed by Marie Vanier. Jaap Valk then took the podium to discuss the role of MRI in diagnosis, with an emphasis on pattern recognition, and Marjo van der Knapp followed with a review of her efforts using MR in the definition of new white matter disorders. She described



Jaap Valk entertains at lunch.

megalencephalic leukoencephalopathies with subcortical cysts (MLC), a disease identified as the first to be defined on the basis of a characteristic MRI pattern, and which has been associated with a specific gene. Patrick van der Voorn then compared post-mortem MR to histopathology, concluding that high-resolution post-mortem MRI could contribute to the understanding of certain white matter disorders. Doug Arnold completed the session by discussing the role of MRS in leukoencephalopathies.

Two lectures were devoted to monitoring of advanced treatment strategies with MR techniques. Ali Fatemi presented results of bone marrow transplantation in X-linked adrenoleukodystrophy as evaluated with a variety of MR modalities and concluded that MRSI was "highly sensitive" in predicting disease course. Subsequently, Jeff Bulte described monitoring of labeled transplanted oligodendrocytes in Pelizaeus Merzbacher disease.

The final session was devoted to three 20-minute presentations surveying the application of diffusion-weighted imaging (Volker Engelbrecht), magnetization transfer (Massimo Filippi), and MRS (Petra Pouwels) to encephalopathies followed by a 30-minute general discussion period. The intent of the session was to give participants insight into application of the workshop material to their own needs, both clinical and scientific. During this session Chairman Filippi of the WMSG announced that the next annual scientific conference would be devoted to MS and would be held in Milan, after which the organizers closed the proceedings.

— Joseph C. McGowan
Secretary, White Matter Study Group

Report on the ISMRM Workshop on *In Vivo* Functional and Molecular Assessment of Cancer

This workshop on *In Vivo* Functional and Molecular Assessment of Cancer, which was organised by the MR of Cancer Study Group, was held from 19-21 October 2002 in the Chaminade Conference Center, beautifully located near Santa Cruz in California. The workshop attracted 142 participants from eight countries. There were 39 oral presentations (of which 19 were proffered papers) and 30 poster presentations.

Workshops of this kind, with a mixed clinical and pre-clinical scope, have now become a successful biennial tradition for the MR of Cancer Study Group (previous workshops were in Geiranger, Norway (2000); St Louis, Missouri, USA (1998); and Baltimore, Maryland, USA (1996). Small meetings like these foster more focused attention on topics of special interest and in-depth discussions among the participants. This workshop, like its predecessors, aimed to give young clinical and pre-clinical investigators the opportunity to present their results in a more relaxed scientific atmosphere compared to the large annual ISMRM meetings. While sessions on cancer at the ISMRM Annual Meeting are very much organised and presented from the Magnetic Resonance point of view, this workshop sought a wider view on the research field of cancer, to put the MR work in a broader perspective. For this purpose several expert speakers were invited from outside the MR community. The meeting was organised with emphasis on MRI on the first day and on MRS during the second day. Proffered papers presented at the end of both sessions stimulated further discussions at the posters.

The opening lecture was presented by Martin Brown, from Stanford University, who gave a nice overview of current insights in the biology of the tumor microenvironment, also as a target for new treatment strategies. In this way the stage was set for the presentations in the following sessions on "Contrast-enhanced MRI" and "Evaluation of Anti-angiogenic and Other Therapies by MRI." The first

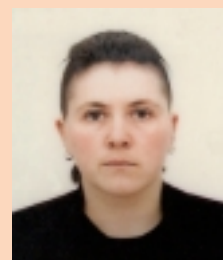
morning was closed by a presentation on the "Need for Better Imaging from an Oncologist's Perspective," by Douglas Yee, Breast Cancer Research Program Leader, from the University of Minnesota Cancer Center, who confronted us with some interesting controversies and problems in the detection and clinical management of breast tumors. The afternoon poster sessions were the scene for energetic discussions among small groups of participants on their topics of interest. Finally we were educated by presentations on recent advances in the development of MR contrast mechanisms and some fascinating new applications in the cancer field at the tissue, vascular, and cellular level.

The second day of the meeting featured the Negendank Lecture, honouring the memory of the late Bill Negendank, a member of the MR of Cancer Study Group, who was an early advocate of the use of MRS in cancer with special attention for choline compounds, which are playing an increasingly prominent role in the detection and management of various cancers. In the



special Negendank session on "Choline Metabolism: Membrane Turnover and Signal Transduction," the biochemist Dennis Vance, from the University of Alberta in Canada, provided us with some necessary background in the biochemistry of choline compounds and also presented some new advances in the basic research of phosphocholine metabolism.

The next session addressed new results and insights in a field that has been of great interest in cancer research for many years: "pH and Lactate." The 2002 Negendank Memorial Lecture was given by John Kurhanewicz on "Clinical MRS: Where and When Can It Make a Difference." In his presentation, a comprehensive overview was given of the impressive progress made in proton MR spectroscopy of a clinically very relevant area: prostate



Left: Arvind P. Pathak, The Johns Hopkins University School of Medicine, Baltimore, Maryland, USA, award winning poster entitled "Intratumor and Intertumor Heterogeneity in Contrast Agent Kinetics as Assessed by Functional MRI- Initial Results with Implications for Metastasis." Center: Patrick Bolan, University of Minnesota, Minneapolis, Minnesota, USA, award winning poster entitled "Quantification of Cho Levels in Breast Tissue Using *In Vivo* MRS at 4T." Right: Kirstie Opstad, St. George's Hospital Medical School, London, UK, award winning poster entitled "Differentiation of Metastases from High-grade Gliomas Using Short Echo Time ^1H MR Spectroscopy."

cancer diagnosis and treatment evaluation. The second day of the workshop was closed by a very entertaining, educational, and vivid discussion on "Prospects of High Magnetic Fields in Cancer" with two excellent debaters, Study Group President Michael Garwood and Truman Brown, defending the advantages and disadvantages of high magnetic field applications in cancer respectively. The debate concluded with further comments and discussion by a panel of high field users with participation of the audience.

The last half-day of the workshop started with the Awards to Young Investigators for Best Poster Presentation. Winners were Arvind Pathak (1st), Patrick Bolan (2nd), and Kirstie Opstad (3rd). This was followed by a vivid overview by Michael Knopp on regulatory issues and practicalities in the introduction of new MRI contrast agents. The aim of the final session was to initiate the generation of a so-called "white paper" on "Cancer MR: Current Role and Future

Directions of Cancer MR," organised and chaired by Jeffrey Evelhoch. After interesting discussions, the participants reached consensus on several areas of MR research, which, over the next few years, are most likely to advance our understanding of the functional biology of cancer and to advance the use of MR in the diagnosis and management of patients with cancer. The "white paper" that will come out of this discussion and those following this workshop will be distributed to funding agencies and administrators to encourage support of research in this area. It is planned to publish this in our Society journal, *Magnetic Resonance in Medicine*, to disseminate it to ISMRM members and the *MRM* readership. This activity is in line with similar activities coming from other fields such as Nuclear Medicine.

Acknowledgements

Special thanks to Roberta Kravitz from the ISMRM Office, and to our chairs and

invited speakers, if not mentioned above: Boudewijn van der Sanden, Michael Tweedle, Ross Maxwell, Bruno Morgan, Risto Kauppinen, Michal Neeman, Olli Grohn, Tom Chevenert, Jeff Bulte, Zaver Bhujwalla, Sabrina Ronen, Marion Stubbs, Chantal Rémy, Natarajan Raghunand, and Jeffrey Alger.

Many thanks also to the ISMRM Gold and Bronze Corporate Members, and to the workshop sponsors, GE Medical Systems, John Wiley and Sons, NMR Magnex Scientific, Philips Medical Systems, and Siemens Medical Solutions for helping us to achieve our goal of stimulating scientific discussion in refreshing surroundings.

— **Arend Heerschap,**
MR of Cancer Study Group Secretary, and
June S. Taylor

On behalf of the workshop organising committee:
Michael Garwood, President, MR of Cancer Study
Group, Michael Knopp, Ingrid S. Gribbestad,
Arend Heerschap, and June S. Taylor

Report on the ISMRM Workshop on MRI-Guided Focused Ultrasound Surgery

The **ISMRM Workshop on MRI-Guided Focused Ultrasound Surgery** was held on 19-21 June 2002, at Cambridge, Massachusetts, U.S.A., under the sponsorship of Brigham Women's hospital, CIMIT, and Harvard Medical School. The Workshop Program Committee was chaired by Drs. Ferenc Jolesz and Kullervo Hynynen. The workshop was attended by approximately 100 scientists from around the world representing many different disciplines. Particular thanks go to GE Medical Systems, InSightec Ltd., and Whitaker Foundation for financial support.

This first workshop on FUS-MRI attracted a good balance of researchers and clinicians across the spectrum from ultrasound to MR and FUS-MR disciplines. There were 28 lecture presentations by an international group of scientists, topics ranging from the basic principles of focused ultrasound to experimental methods and clinical applications. Among

the interesting clinical talks were Dr. ter Haar's presentation on phase I and II liver surgery using ultrasound-guided FUS and several talks on the feasibility study on treating uterine leiomyomas. One important goal of the workshop was to highlight future applications and direction to the entire field of FUS-MR. Possibilities in brain treatment, gene therapy, and vascular occlusions were among the topics presented. Topics in each session were well defined and organized in a manner to give a broad coverage on the particular aspect of FUS-MR. The breaks in between the sessions guaranteed conducive individual interactions. The broad umbrella of this first FUS-MR workshop enabled attendees to get a good overall sense on each specific FUS-MR area which are often represented only diffusely, if at all, in the Annual Meetings.

The main objective of this workshop was to define the method of focused

ultrasound thermal therapy and the use of MR for controlling the energy deposition. Unlike many other technologies, FUS-MRI is highly interdisciplinary, involving physics, chemistry, biology, engineering, and medicine. Therefore this forum provided a well-needed opportunity for communication among these diverse groups, and demonstrated the clinical potential of MRI-guided thermal ablations as well as created awareness of the advantage of FUS therapy over other thermal ablation methods. The Organizing Committee succeeded extremely well in covering different aspects of this diverse field through invited talks specialized in areas related to the FUS-MR.

Throughout the workshop it was clear that there is a need to have organized periodical conferences in this rapidly developing research and clinical area of FUS-MRI.

— **Katriina Lahti**

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MOTIONS FROM THE MEETINGS OF THE BOARD OF TRUSTEES

30 NOVEMBER AND 1 DECEMBER 2002

It was moved, seconded, and carried to approve the consent agenda.

It was moved, seconded, and carried to put the Planning Guide for ISMRM Affiliated Workshops Version 6.0 on the Society Website.

It was moved, seconded, and carried that the 2009 Annual Meeting be held in Honolulu and subsequent meetings be held in Europe (2010), Eastern North America (2011), Pan-Pacific (2012), Western North America (2013), and Europe (2014).

It was moved, seconded, and carried that the following section (e) be added to the existing *CME Mission Statement*:

(e) Expected Results

The educational programs will result in:

- (1) an increase in participants' knowledge and/or skill
- (2) the incorporation of such improvements into their clinical practice

The ISMRM is committed to reassessing the impact of the CME program on an ongoing basis through evaluation and outcome surveys to ensure that this goal is being met.

It was moved, seconded, and carried that (i) a program should be developed to follow up CME programs with a questionnaire, preferably electronic, to evaluate the impact of the learned material on practice, and (ii) members should be polled annually regarding their satisfaction with the current educational programs.

It was moved, seconded, and carried to approve the Standard Operating Procedures for the Inter-Society Advisory Committee.

It was moved, seconded, and carried to approve the revised Bylaw for Associate Membership.

It was moved, seconded, and carried that a Task Force including the chairs of the Finance, Global Development, Publications, and Governance Committees, and some additional members of those Committees, be asked to consider (i) strategies to achieve full membership for individuals from underdeveloped countries and (ii) the implications of such strategies to the Society.

It was moved, seconded, and carried to approve the contract addendum with Wiley with a revision to include separate itemization of advertising revenue.

It was moved, seconded, and carried to approve the modified 2003 budget for *JMRI*.

It was moved, seconded, and carried that the Executive Director's contract is renewed for a further three years.

It was moved, seconded, and carried to approve the budget for FY2003 with the following amendments: (i) include US\$20,000 to support the Ad Hoc Committee for Historical Archives, (ii) increase the allowance for email computers at the 2003 Annual Meeting from US\$10,000 to US\$20,000, and (iii) cover liability for unrelated business income tax (~US\$2,500).

Ballots Are Counted

March 2003 ISMRM Election Results

Results of the ISMRM 2003 Ballot

The results of the election for Vice President and members of the Board of Trustees are as follows:

Vice President:

Chrit Moonen, Ph.D.

Board of Trustees:

Margaret Hall-Craggs, M.D.

Risto Kauppinen, M.D., Ph.D.

Roland Kreis, Ph.D.

Martin Prince, M.D., Ph.D.

Michael B. Smith, Ph.D.

A. Gregory Sorensen, M.D.

Amendment to the ISMRM Bylaws:

1. Modification to Introduce an "Associate Member" Category (Article II).

In certain countries, the economic situation may prevent clinicians and scientists from joining the ISMRM because membership dues are higher than their financial circumstances allow them to pay. To give such potential members the opportunity to participate as members in ISMRM activities and to receive our journals, a new category of Associate Member was proposed. The amendment passed.

2. Modifications to the Procedure for Selecting Fellows of the Society (Articles II and IX). To make the procedure for selecting Fellows of the Society consistent with the procedures for selecting the recipients of the Society's Gold and Silver Medals. The amendment passed.

STUDY GROUP UPDATE

The study group program continues to thrive, with 13 study groups presenting programs at the ISMRM 11th Scientific Meeting and Exhibition in Toronto. Please monitor the ISMRM Website, both under the 11th Scientific Meeting program information and the individual study groups, for program updates; however, following are the preliminary plans of each study group for the Toronto meeting:

Cardiac MR Study Group

The Cardiac MR Study Group will present a scientific program entitled *"Myocardial Stress Perfusion Imaging- Controversies in Data Acquisition and Analysis"* on Monday, 12 May 2003, from 19:30 to 21:30.

Data Acquisition: Andrew Arai, M.D., National Institutes of Health, Bethesda, Maryland, USA, and Frederick Epstein, Ph.D., University of Virginia, Charlottesville, Virginia, USA

Data Analysis: Eike Nagel, M.D., German Heart Institute, Berlin, Germany; Michael Jerosch-Herold, Ph.D., University of Minnesota, Minneapolis, Minnesota, USA, and Steven Wolff, M.D., Ph.D., Lenox Hill Hospital, New York, New York, USA.

Dynamic NMR Spectroscopy Study Group

The Dynamic NMR Spectroscopy Study Group will present a scientific program on Monday, 12 May 2003, from 19:30 to 21:30.

MR of Cancer Study Group

The MR of Cancer Study Group will present a scientific program entitled *"Molecular Imaging in Oncology"* on Monday, 12 May 2003, from 19:30 to 21:30.

Business Meeting

Scientific Program Lectures:

"Molecular Imaging of Neoplasia Using MR," Brian Ross, Ph.D., University of Michigan, Ann Arbor, Michigan, USA

"Monitoring Transgene Expression with PET and MR," Juri Gelovani Tjvujajev, Ph.D., M.D., Memorial Sloan Kettering Cancer Center, New York, New York, USA

"Optical Imaging in Cancer," Eyk Schellenberger, M.D., Center for Molecular Imaging Research, Massachusetts General Hospital, Boston, Massachusetts, USA

Open Discussion

Adjournment

MR in Drug Research Study Group

The MR in Drug Research Study Group will present a scientific program Monday, 12 May 2003, from 19:30 to 21:30.

Preliminary Agenda:

19:00 Social hour with the members of the Society for Non-Invasive Imaging in Drug Development

19:30 Tim McCarthy, President of SNIDD

19:40 Business Discussion

20:00 *"Update on DICOM- The Impact of HIPAA Regulations,"* Dr. Andrew Krause, Beacon Biosciences

20:30 *"The Use of Metabonomics in Drug Safety Evaluations,"* Dr. Marielle Delnomdedieu, Pfizer

21:00 *"CDER Interests in Imaging,"* Dr. Nakissa Sadrieh, FDA/CDER/OPS

21:30 Adjournment

MR Engineering Study Group

The MR Engineering Study Group will present a scientific program on Monday, 12 May 2003, from 19:30 to 21:30.

MR Flow and Quantitation Study Group

The Flow and Motion Quantitation Study Group will conduct its Business Meeting on Sunday, 11 May 2003, from 16:30 to 17:30.

Meeting Agenda:

Welcome

Review of Old Business

Introduction of New Officers

New Business

Web-site Content Discussion

Workshop Preparations Overview and Discussion

Adjournment

Interventional MR Study Group

The Interventional MR Study Group will present a scientific program on Sunday, 11 May from 2003, 15:30 to 17:30.

Musculoskeletal Imaging Study Group

The Musculoskeletal Study Group will hold a business meeting and present a scientific program on Sunday, 11 May 2003, from 15:30 to 17:30.

The scientific program, entitled *"Contrast Issues in Musculoskeletal MR Imaging,"* will discuss various established uses for contrast agents in musculoskeletal imaging, as well as methods for optimization of protocols incorporating contrast. Comparison of direct and indirect arthrography will be discussed, as well as various uses of dynamic contrast enhanced studies. Issues concerning contrast safety and interactions will be raised. Finally, discussion will transition into investigational applications for contrast media, including newly developed agents. Speakers are to be announced.

Diffusion and Perfusion Study Group

The Diffusion and Perfusion Study Group have a business meeting and scientific program on Sunday, 11 May 2003, from 15:30 to 17:30.

Business Meeting

Welcome

Announcement about the 2003 Perfusion workshop.

Announcement of new committee members.

Announcement about the *"Tractography Project."* A collaborative project to compare different tractography techniques and to make the results as well as the programs public will be announced, and the preliminary data will be introduced.

Scientific Program

Topics and speakers to be announced.

See Study Groups page 20

Psychiatric MRS and MRI Study Group

The Psychiatric MRS and MRI Study Group will meet on Sunday, 11 May 2003, from 15:30 to 17:30.

Business Meeting Agenda

15:30 Discussion of the role of the Psychiatric Magnetic Resonance study group with goals for the future. Discussion of annual meeting plan and workshop organization. Statement of governing structure, announcement of call for nominations for the election.

Scientific Meeting

15:50 *Magnetic Resonance Spectroscopic Methods, Strengths, and Limitations*, Daniel Spielman, Stanford University, Stanford, California, USA

16:35 *Understanding Schizophrenia—Opportunities for MR Research*, Robert Zipursky, University of Toronto, Toronto, Ontario, Canada

17:20 General Discussion

17:30 Adjourn

High Field Systems and Applications Study Group

Programme for High Field Systems and Applications Study Group on Sunday, 11 May 2003, from 15:30 to 17:30.

15:30 Meeting Opens

Business Meeting

Invited talks (20 minutes plus 10 minutes discussion):

1. "Opportunities for Parallel Imaging at High Field," Jeff Duyn, NIH
2. "Body Imaging: Now and in the Future," J. Tommy Vaughan, University of Minnesota, Minneapolis, Minnesota, USA
3. "Solutions to Susceptibility-Induced Geometric Distortion," R. Todd Constable, Yale University School of Medicine, New Haven, Connecticut, USA

Open Discussion

17:30 Adjourn

White Matter Diseases Study Group

The White Matter Study Group will present a scientific program on Monday, 12 May 2003, from 19:30 to 21:30. The meeting will be divided into three parts: during the first, the new WMSG Steering Committee will present themselves and their programme for the next three years; the second part will host short oral presentations of ten abstracts we will choose among those related to White Matter accepted for poster presentation in the ISMRM Scientific Meeting; during the last part, proposals for the 2004 workshop of the WMSG will be discussed.

Hyperpolarized Noble Gas MR Study Group

The Hyperpolarized Noble Gas MR Study Group will present a scientific program of three presentations of 30 minutes each, including discussion, on Monday, 12 May 2003, from 19:30 to 21:30.

1. "Polarized Gas MR and Lungs," Peter Macklem, McGill University, Montreal, Canada
2. "Hyperpolarization Methods for ^{13}C -Containing Molecules," Oskar Axelsson, Amersham Health R&D, Malmö, Sweden
3. "Low Field MRI with Hyperpolarized Helium: Status, Prospects, and Issues," Genevieve Tastevin, Laboratoire Kastler Brossel, Ecole Normale Supérieure, Paris, France

From the SMRT President

I'd like to take this opportunity to inform the ISMRM membership of the activities of the Section for Magnetic Resonance Technologists. It's been a very busy and productive year for us. The SMRT membership is excited about our 12th Annual Meeting, which will be held in Toronto, Ontario in conjunction with the ISMRM Meeting. Laurian Rohoman, SMRT Program Chair, has put together an excellent program that will cover a variety of topics. We'll initiate our meeting with our Annual Poster Reception and Walking Tour. This will give the attendees an opportunity to review the submitted posters. This year, we had a record-setting 63 abstracts submitted. The outstanding abstract will receive the SMRT President's Award, and we also have 1st, 2nd, & 3rd Place Proffered Papers and Posters in both research and clinical areas. Proffered papers will be presented throughout our 2-day meeting. Please see the entire meeting schedule on page 21.

In other SMRT activities, we recently purchased the American Registry of Radiologic Technology's list for all MR registered technologists in the US. Ray Cruz, SMRT Membership Chair, reports an increase in membership, and we feel that it's a direct result of this mailing. The *SMRT Educational Seminars* home studies program continues to be one of our biggest member benefits. In addition, the *Signals* newsletter is now on-line along with a new feature entitled "Highlight Your Site!" which gives SMRT members the opportunity to present their site to the membership. The SMRT has also acquired the MRI Technologist List Server. At present, the List Server consists of 700+ MR technologists from over 20 countries. Anything related to the MR field may be asked and is sent to the members of the List. It's a very informative mechanism for its members. By networking, technologists throughout the world are now connected and offer each other advice and experiences.

I'm pleased to announce the results of our recent elections: President Cindy Hipps, Greenville, South Carolina, USA. New SMRT Policy Board members: Gregory Brown, Adelaide, S. Australia; Andrew Cooper, Nottingham, England; Denise Davis, Pittsburgh, Pennsylvania, USA; Todd Frederick, Dallas, Texas, USA; and Judy Wood, Chicago, Illinois, USA. These members will start serving in their positions during the 2003 meeting. As always, please feel free to contact me at jak3264@aol.com if I can be of any assistance.

— John A. Koveleski, SMRT President

From the 2003 SMRT Program Chair

The theme of the 2003 SMRT Annual Meeting is "Excellence Through World-Class Education." The Program Committee has designed a program that will meet the needs of all MR technologists in both clinical practice as well as in the research area. The meeting faculty includes clinicians, physicists, and magnetic resonance technologists who will present topics that relate to current and advanced MR technology as well as to practical applications.

The goal of the SMRT is to advance the continuing education for MRI/S technologists worldwide. This program will allow technologists to enhance their knowledge in the field of MRI.

The meeting will begin with a Poster Exhibit and Walking Tour Reception on Friday evening, 9 May 2003 at 18:30. This will be a great opportunity to meet and share experiences with fellow technologists from around the world in a relaxed and informal atmosphere. The poster authors will be present to answer any questions and share their expertise.

The didactic portion of the meeting will start off early Saturday morning, 10 May at 07:45 with opening remarks

from both the President and the Program Chair. Selected proffered papers will be presented as part of the program. Many technologists took the opportunity to be an active part of the meeting by submitting their abstracts. The annual SMRT Business Meeting will take place during lunch hour on Saturday. This is an excellent way to learn more about the SMRT and to become actively involved in the organization. After the Business Meeting, awards will be presented for the best oral and poster presentations. Special Recognition Awards will also be presented at this time.

Following last year's success, the Safety Forum will again be *THE* hot topic at the SMRT Annual Meeting. It will be held on Sunday, 11 May during the lunch hour. Dr. Frank Shellock will be moderating the forum and we have invited expert panelists William Faulkner, Dr. Emanuel Kanal, and Dr. Robert Herfkens, who will discuss current safety issues. There will be ample time for questions from the audience during the forum. Please encourage technologists you know and/or work with to make plans now to attend the SMRT 12th Annual Meeting.

— Laurian Rohoman, SMRT 2003 Program Chair

SMRT 12th Annual Meeting Program "Excellence Through World-Class Education"

The meeting will commence with a Poster Exhibit and Walking Tour Reception on Friday evening, 9 May at 18:30.

Saturday, 10 May 2003

- 07:45 **Welcome and Announcements**
Laurian Rohoman, A.C.R., R.T. (R) (MR), 2003 SMRT Program Chair
- 08:00 **Basics of Functional Neuro Imaging**
Anne Sawyer-Glover, B.S., R.T. (R) (MR)
- 09:00 **Cardiac Imaging, Naeem Merchant, M.D.**
- 10:00 **Break**
- 10:15 **Physics: New Pulse Sequences,**
William Faulkner, B.S., R.T. (R) (MR) (CT)
- 11:15 **Proffered Papers**
1st Place Award— Clinical Focus: Mercedes Pereyra, R.T.
Quantitative Assessment of Global LV Function Using Sensitivity Encoding (SENSE)
Accelerated Balanced FFE
2nd Place Award— Clinical Focus: Claudio Arena, R.T. (CT) (MR)
Robust Small Field-of-View, High Resolution Contrast Enhanced MRA (CE-MRA)
of Renal Arteries Using Sensitivity Encoding in Two Dimensions (2D-SENSE)
3rd Place Award— Clinical Focus: Eva Wembacher, R.T.
Comparison of Different Techniques for MR-Colonography
- 11:45 **Lunch/SMRT Business Meeting/Awards**
- 13:30 **Breast Imaging, Petrina Causer, M.D.**
- 14:30 **Pulse Sequences and Protocols in MSK, Garry Gold, M.D.**
- 15:30 **Break**
- 15:45 **Proffered Paper**
President's Award: Eva Wembacher, R.T.
Combined Small and Large Bowel MR Imaging in Patients with Inflammatory
Bowel Disease
- 16:00 **Pre- and Postnatal Pediatric Neuromaging: How and Why,**
Erin Simon, M.D.
- 17:00 **Assessment of Gastrointestinal Disorders, Silke Bosk, R.T.**
and Thomas Lauenstein, M.D.
- 17:30 **Adjourn**

Sunday, 11 May 2003

- 07:45 **Welcome and Announcements**
Laurian Rohoman, A.C.R., R.T. (R) (MR), 2003 SMRT Program Chair
- 08:00 **Functional MRI: Past, Present, and Future,**
Peter Bandettini, Ph.D.
- 09:00 **Stroke Imaging, Richard Frayne, Ph.D.**
- 10:00 **Break**
- 10:15 **Contrast Enhanced MR of the Abdomen: Contrast Agents, Techniques,**
and Findings, Richard Semelka, M.D.
- 11:15 **Lunch/MRI Safety Forum**
Frank G. Shellock, Ph.D., (Moderator), William Faulkner, B.S., R.T. (R) (MR) (CT),
Robert J. Herfkens, M.D., and Emanuel Kanal, M.D.
- 13:15 **Proffered Papers**
1st Place Award— Research Focus: Heather Ducie, R.T. (MR)
Analysis of Perfusion MRI Data in Patients with Severe Cerebrovascular Disease
2nd Place (Tie) Award— Research Focus: Jane Francis, D.C.R. (R) (DNM)
Cardiovascular Magnetic Resonance in the Pre and Post Operative Assessment of
Patients Undergoing Left Ventricular Reduction Surgery
2nd Place (Tie) Award— Research Focus: Wendy Strugnell, B.Sc., R.T.
Cardiac MRI Analysis of RV Function— A New Approach
- 13:45 **Talking Sense and Non-Sense in Parallel Imaging,**
Donald W. McRobbie, Ph.D.
- 14:45 **Break**
- 15:00 **MRI of the Female Pelvis: Emphasis on Technique, Eric Outwater, M.D.**
- 16:00 **Why 3T?, David W. Stanley, B.S., R.T. (R) (MR)**
- 17:00 **Proffered Papers**
Improvement in the Selection of Stereotactic Biopsy Target in Intracerebral Gliomas
Using T2* Perfusion, Filip De Ridder, R.T.
The Preoperative Assessment of Mitral Regurgitation by Magnetic Resonance Imaging:
A Series of 6 Patients, Cindy Comeau, B.S., R.T., (N) (MR)
Dynamic Contrast Enhanced Bilateral Breast Technique,
David Stanley, B.S., R.T. (R) (MR)
- 17:30 **Adjournment**

ISMRM Workshop on Cellular and Molecular Imaging in Diagnostics and Therapy

29-30 June and 1 July 2003 Bordeaux, France

Endorsed by the Society for Molecular Imaging

The description of the human genome has opened medical research to the development of new molecular therapies, targeted to correct specific pathologies. Gene expression, a powerful tool for the medicine of the future, can be studied by modern molecular imaging techniques, e.g. using MRI, PET, SPECT, and optical methods. In addition, cellular imaging shows a major potential towards understanding and guiding novel cell repair strategies based on stem cells. Ultrasound contrast agents may be used as drug delivery devices. These and other emerging subjects in imaging, recently summarized as "molecular imaging," are fast becoming a hot topic in imaging research. This trend was clearly shown at recent meetings, e.g., the Glasgow and Honolulu meetings of the ISMRM and dedicated molecular imaging conferences. The purpose of this workshop is to explore the potential of multi-modality molecular and cellular imaging and their applications in diagnostics and therapy.

PROGRAM OUTLINE

Inaugural lecture on molecular imaging.

Session 1: Contrast agents for molecular imaging: principles, opportunities and limitations.

Session 2: Targeted pathways and physiological processes.

Session 3: Applications in the field of cancer.

Session 4: Applications in the field of inflammatory and degenerative diseases.

Session 5: Novel repair strategies using stem cells and progenitors.

CALL FOR PAPERS DEADLINE: 14 APRIL 2003

Abstracts should be sent to:

International Society for Magnetic Resonance in Medicine
Attn: Workshop on Cellular and Molecular Imaging in Diagnostics and Therapy

2118 Milvia Street, Suite 201

Berkeley, CA 94704 USA

E-mail: Molecular_Imaging@ismrm.org

For more detailed information, please see the Call for Papers on the ISMRM Website: <http://www.ismrm.org>

CREDIT HOURS AVAILABLE

The International Society for Magnetic Resonance in Medicine designates this continuing medical education activity for up to **15 hours in Category 1** of the Physician's Recognition Award of the American Medical Association. Each physician should claim only those hours of credit that he/she actually spent in the educational activity.

VENUE

The workshop will take place at La Cité Mondiale Centre De Congrès.

FOR FURTHER INFORMATION, PLEASE CONTACT ISMRM

Phone: +1 510 841 1899 FAX: +1 510 841 2340 E-mail: info@ismrm.org Website: <http://www.ismrm.org>

AUDIENCE DESCRIPTION

This workshop is designed for radiologists; physicians working in the field of cancer, (neuro) degenerative diseases and inflammation; scientists and engineers (physicists, chemists, biologists) working in the field of imaging, contrast agents, cellular targeting, and gene therapy; industry specialists working in imaging, pharmacology, contrast agents; regulatory experts in the field of medical imaging; and medical grant agencies. Those with an interest in stem cells, gene therapy, or specific contrast agents will find it useful.

WORKSHOP ORGANIZING COMMITTEE

- Chrit T. Moonen, Ph.D., Université Victor Segalen Bordeaux 2, Bordeaux, France
- Andreas Jacobs, M.D., Liaison SMI, Max-Planck-Institut, Köln, Germany
- Michele Allard, M.D., Ph.D., Hôpital Pellegrin-Tripode, Bordeaux, France
- Vincent Dousset, M.D., Ph.D., CHU Pellegrin, Bordeaux, France
- Nicolas Grenier, M.D., Ph.D., Groupe Hospitalier Pellegrin, Bordeaux, France

WORKSHOP SPEAKERS*

- Silvio Aime, Ph.D., University of Torino, Torino, Italy
- James Bacion, Ph.D., Massachusetts General Hospital, Boston, Massachusetts, USA
- David Brooks, M.D., Hammersmith Hospital, London, England, UK
- Kishore Kumar Bhakoo, Ph.D., University of Oxford, Oxford, England, UK
- Jeff Bulte, Ph.D., Johns Hopkins University, Baltimore, Maryland, USA
- Vincent Dousset, M.D., Ph.D., CHU Pellegrin, Bordeaux, France
- Nicolas Grenier, M.D., Ph.D., Groupe Hospitalier Pellegrin, Bordeaux, France
- Uwe Haberkorn, M.D., University of Heidelberg, Heidelberg, Germany
- Rüdiger Hilker, M.D., Max-Planck-Institut, Köln, Germany
- Mathias Hoehn, Ph.D., Max-Planck-Institut, Köln, Germany
- Andreas Jacobs, M.D., Max-Planck-Institut, Köln, Germany
- Kenneth Krohn, Ph.D., University of Washington, Seattle, Washington, USA
- Clemens Lowik, Ph.D., University of Leiden Medical Center, Leiden, The Netherlands
- Helmut Maecke, M.D., University of Basel, Basel, Switzerland
- Chrit Moonen, Ph.D., Université Victor Segalen Bordeaux 2, Bordeaux, France
- Michal Neeman, Ph.D., Weizmann Institute, Rehovot, Israel
- Pat Price, Ph.D., University of Manchester, Manchester, England, UK
- Frank Roesch, M.D., University of Mainz, Mainz, Germany
- Michael Schäfers, M.D., University of Münster, Münster, Germany
- Evan Y. Snyder, Harvard University, Boston, Massachusetts, USA
- Juri Tjuvajev, M.D., Ph.D., Memorial Sloan-Kettering Cancer Center, New York, New York, USA
- Hans-Jürgen Wester, Ph.D., Technical University München, München, Germany

*Partial List



Bordeaux Tourist Office, photograph by D. Le Lann.



ISMRM Workshop Announcements

Rescheduled Workshop

Dynamic Spectroscopy and Measurements of Physiology, Metabolism and Function

6-8 September, 2003, Orlando, Florida, USA

The purpose of this workshop is to bring together basic scientists and clinicians to discuss recent advances in *in vivo* spectroscopy elucidating the relationship between metabolism and function. The workshop will present sessions devoted to current frontiers of MR spectroscopy in physiology, metabolism, and function in the brain, liver, skeletal muscle, and heart. Specific areas include: 1) the relationship between functional activity and neurotransmitter metabolism and physiology, 2) the relationship between lipids and glycogen and the development of diabetes and obesity, and 3) bioenergetics and function in ischemic heart disease. Invited talks will be combined with proffered papers, and ample time for discussion will be allowed.

ORGANIZING COMMITTEE

- Hoby Hetherington, Ph.D., Albert Einstein College of Medicine, New York, New York, USA
- A. Dean Sherry, Ph.D., University of Texas at Dallas, Dallas, Texas, USA
- Jan den Hollander, Ph.D., University of Alabama at Birmingham, Birmingham, Alabama, USA

PRELIMINARY LIST OF SESSIONS

- Brain Metabolism: Neuronal/Glial Coupling and Neurotransmission
- The Coupling Between Brain Function, Physiology and Metabolism
- Liver and Skeletal Muscle Metabolism: Methods and Basic Mechanisms
- Liver and Skeletal Muscle Metabolism: Applications to Diabetes and Obesity
- Metabolism and Function in the Heart: *In Vivo* Detection of Ischemia

MR Technology to Assess MS Pathology *In Vivo*

9 - 11 October, 2003, San Servolo, Venice, Italy

The aim of this workshop is to bring together MR physicists, radiologists and neurologists to discuss the MR correlates of the various pathological substrates of MS, ranging from inflammation to cortical plasticity. The relevance of conventional MRI, structural MR-based techniques (i.e., magnetization transfer, diffusion-weighted and MR spectroscopy) and functional MRI will be discussed. The relationship between inflammation and neurodegeneration will be extensively addressed in a separate session, given its relevance for the development of new therapeutic strategies targeted against the more disabling substrates of the disease. Finally, MR imaging of MS-related diseases will be the object of another plenary session, with particular emphasis on the aspects of differential diagnosis.

ORGANIZING COMMITTEE

- Massimo Filippi, M.D., Scientific Institute H. San Raffaele, Milan, Italy
- Andrea Falini, M.D., University of Milan, Milan, Italy
- Giancarlo Comi, Milan, Italy
- Marco Rovaris, M.D., Scientific Institute H. San Raffaele, Milan, Italy
- Giuseppe Scotti, Milan, Italy

PRELIMINARY OBJECTIVES

Upon completion of this workshop, participants should be able to:

- Describe the MR correlates of the various pathological substrates of MS;
- Apply and interpret structural and functional MR-based techniques to study the characteristics and evolution of MS-related damage;
- Describe the "state-of-the-art" knowledge as regards the relationship between inflammation and neurodegeneration in MS;
- Describe MR imaging findings in MS-related diseases;
- Design appropriate MR protocols to provide a differential diagnosis of MS vs. other demyelinating diseases.

2003 ISMRM Meetings of Interest

MAY

Meeting: ISMRM Eleventh Scientific Meeting and Exhibition
Date: 10-16 May 2003
Where: Metro Toronto Convention Centre, Toronto, Ontario, Canada

Meeting: MRI and MRS 2003
ISMRM Workshop Jointly Sponsored with the University of Sydney
A comprehensive course dealing with the impact of magnetic resonance on healthcare, with emphasis on the clinical application of practical state-of-the-art techniques.
Date: 28 May to 1 June 2003
Where: Cairns, Australia
Contact: brooke@imrr.usyd.edu.au
Website: <http://www.imrr.org.au/frtocimrr.htm>

JUNE

Meeting: ISMRM Workshop on Cellular and Molecular Imaging in Diagnostics and Therapy
Date: 29-30 June and 1 July 2003
Where: La Cité Mondiale, Bordeaux, France

AUGUST

Meeting: Second Annual Meeting of the Society for Molecular Imaging *Co-Sponsored by ISMRM*
Date: 16-18 August 2003
Where: San Francisco, California, USA
Contact: joefner@molecularimaging.org

SEPTEMBER

Meeting: ISMRM Workshop on Dynamic Spectroscopy and Measurements of Physiology, Metabolism and Function
Date: 6-8 September, 2003
Where: Grand Bohemian Hotel, Orlando, Florida, USA

OCTOBER

Meeting: ISMRM Workshop on MR Technology to Assess MS Pathology *In Vivo*
Date: 9-11 October 2003
Where: San Servolo, Venice, Italy

Contact: Registrar,
International Society for Magnetic Resonance in Medicine
2118 Milvia Street, Suite 201, Berkeley, CA 94704 USA
Tel: +1 510 841 1899
Fax: +1 510 841 2340
E-mail: info@ismrm.org
Website: <http://www.ismrm.org>

Other Meetings of Interest

MAY

Meeting: 7th Advanced Course on MR and MS
Date: 30-31 May 2003
Where: Milan, Italy
Contact: See ISMRM Website for further information

ISMRM Endorsed

JUNE

Meeting: The Third FSL & FreeSurfer Course
Learn the Theory and Practice of Functional and Structural Brain Image Analysis
Date: 8-11 June 2003
Where: Marina Del Rey Hotel, Marina Del Rey, California, USA
Sponsors: Oxford University and University of California at Los Angeles
Contact: fsl@fmrib.ox.ac.uk
Website: <http://www.fmrib.ox.ac.uk/fslcourse/announce.html>

JULY

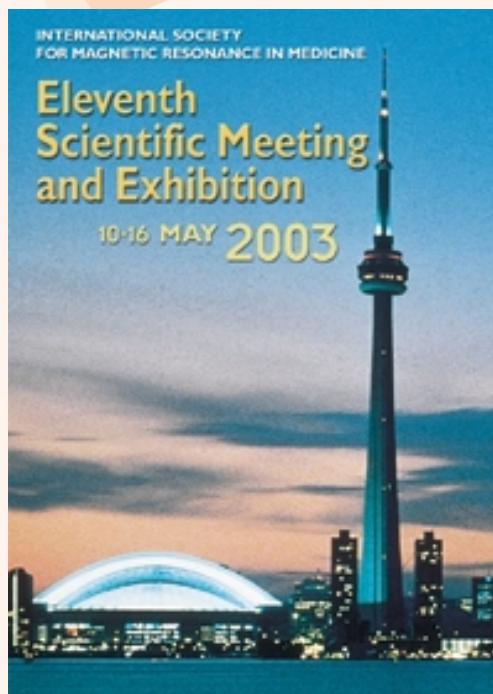
Meeting: 25th Annual Diagnostic Imaging Seminar
Date: 7-11 July 2003
Where: Martha's Vineyard, Massachusetts, USA
Contact: Department of Radiology, University of Pennsylvania Medical Center, 3400 Spruce Street, Philadelphia, Pennsylvania, USA
Tel: +1 215 662 6982 or +1 215 662 6904
Fax: +1 215 349 5925
E-mail: fedullo@rad.penn.edu
Website: <http://oasis.rad.upenn.edu>

Mark Your
Calendar!

ISMRM IMPORTANT DATES AND DEADLINES

28 MARCH 2003

Deadline for Advance Registration for the ISMRM Eleventh Scientific Meeting & Exhibition.



10-16 MAY 2003

ELEVENTH SCIENTIFIC MEETING AND EXHIBITION

Toronto, Ontario, Canada

FRIDAY, 9 MAY 2003

On-site Registration open from 14:00 - 20:00.
SMRT Poster Tour & Reception 18:30 - 20:00.

SATURDAY, 10 MAY 2003

Weekend Educational Programs begin.
On-site Registration open from 06:30 - 18:00.
SMRT 12th Annual Meeting begins 07:45.

SUNDAY, 11 MAY 2003

Weekend Educational Programs continue.
On-site Registration open from 07:30 - 18:00.
SMRT 12th Annual Meeting begins 07:45.

MONDAY, 12 MAY 2003

On-site Registration open from 06:30 - 18:30.
Scientific Sessions begin at 07:45.
Technical Exhibition open from 10:00 - 17:00.

TUESDAY - THURSDAY, 13-15 MAY 2003

On-site Registration open from 06:30 - 18:00.
Morning Categorical Courses begin at 07:00.
Scientific Sessions begin at 08:15.
Technical Exhibition open from 09:30 - 17:00.

FRIDAY, 16 MAY 2003

On-site Registration open from 06:30 - 12:30.
Morning Categorical Courses begin at 07:00.
Scientific Sessions begin at 08:15.
Scientific Meeting adjourns at 12:30.

Bill Negendank Award Fund

In memory of William George Negendank, M.D., his colleagues in the ISMRM MR of Cancer Study Group have established the **Bill Negendank Award Fund** to recognize outstanding young investigators in the field of Cancer MR (see *MR Pulse*, Vol. 3, No. 3, page 6). To make your tax-deductible contribution, please send your check made payable to the ISMRM or submit your Visa, MasterCard, American Express, or Eurocard number, expiration date, and amount you wish to donate to the following address:

Bill Negendank Award Fund
International Society for
Magnetic Resonance in Medicine
2118 Milvia Street, Suite 201
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*MR Pulse is published by the
International Society for
Magnetic Resonance in Medicine*

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

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