

Getting the most out of ISMRM

Gareth J Barker, PhD

Declaration of Financial Interests or Relationships

Speaker Name: Gareth J Barker

I have the following financial interest or relationship to disclose with regard to the subject matter of this presentation:

- **Company Name:**
 - GE Healthcare
- **Type of Relationship:**
 - I receive honoraria for teaching scanner programming

Background

(Why ask *me* about this?!)

The ISMRM and me...

My first (I)SMR(M) was in 1987

- 6th annual meeting; New York

I missed the 1988 meeting, but been to every consecutive meeting of the ISMRM/SMR/ISMRM since 1989

- I *think* this year will therefore be my 35th!



My first ISMRM Abstract (1989) 😊

1159

START: A Pulse Sequence for Simultaneous T_1 and T_2 Determination.

Gareth J. Barker, Institute of Neurology, Queen Square, London, UK.

Introduction

Rapid and accurate determination of T_1 and T_2 relaxation times is a requirement of many MRI studies, but is surprisingly difficult to achieve. T_2 is usually measured either by repeated Hahn echo sequences with different echo times, TE, or by multiple echo sequences based on those used in NMR spectroscopy. T_1 is traditionally measured by repeated inversion recovery (IR) or saturation recovery (SR) sequences, although recently stimulated echo sequences such TART [1] have been reported which allow much quicker T_1 determination. The START (Son of TART) sequence combines multiple stimulated echoes (STEs) for T_1 determination with multiple Hahn spin echoes (SEs) for T_2 determination to allow both relaxation times to be determined by a single pulse sequence.

Experimental

A single slice version of the START sequence, with the initial slice selective 90° pulse being followed by non-selective pulses, was implemented on a Picker International whole body imager operating at 0.5T. Two SEs with echo times of TE=40ms and 120mS, and two STEs with TL=150mS and 400mS were produced. The sequence was used to image a phantom of gel-filled bottles with T_1 and T_2 covering the normal physiological range. Standard Picker software was used to calculate T_1 and T_2 images on a pixel by pixel basis, and the resulting images were compared with those calculated from SE and IR sequences known to give accurate results on this machine.

Results

Introduction Rapid and accurate determination of T_1 and T_2 relaxation times is a requirement of many MRI studies, but is surprisingly difficult to achieve....

OVERVIEW of ISMRM Meeting

What to expect...

Weekend teaching sessions ...

Day 1: Saturday, 07 May

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Saturday • Morning Sessions

Tutorial: Neuro	Body	Musculoskeletal	Cross-Organ	Tutorial: Transferable Skills	Image Acquisition	Contrast Mechanisms	Contrast Mechanisms	Physics & Engineering	ISMRT
Getting a @Handle on Big Neuroimaging Datasets Room # 08:00 - 12:00 <i>(No CME Credit)</i>	Clinical Translation in the Age of AI: Challenges & Successes in Body MRI Room # 08:00 - 12:00 SAM	MRI of Cartilage Room # 08:00 - 12:00 SAM	MRI of Moving Targets & Maturation Room # 08:00 - 12:00 CME	Imaginarium: Engineering Inclusive Clinical Trials Room # 08:00 - 12:00 <i>(No CME Credit)</i>	Machine Learning: From Mathematical Models to Clinical Practice Room # 08:00 - 12:00 CME	Molecular Imaging Room # 08:00 - 12:00 CME	Diffusion Room # 08:00 - 12:00 CME	MR Physics & Engineering I: Dances with Spins Room # 08:00 - 12:00 CME	Keynote Session AI in MRI Practice Advances & Applications in Low Field Imaging Room # 08:00 - 12:00 CE

Lunch: 12:00-13:00

Saturday • Afternoon Sessions

Neuro	Cardiovascular	Tutorial: Body	Tutorial: Musculoskeletal	Transferable Skills	Image Acquisition	Contrast Mechanisms	Contrast Mechanisms	Physics & Engineering	ISMRT
Brain Tumors: From Molecules to MRI Room # 13:00 - 17:00 SAM	The Heart in the Right Place Room # 13:00 - 17:00 CME	Standardization & Integration in Body MRI Room # 13:00 - 17:00 <i>(No CME Credit)</i>	MSK MRI 101: Practical Considerations for Anatomy & Techniques Room # 13:00 - 17:00 <i>(No CME Credit)</i>	Evidence in Imaging: Systematic Reviews, Meta-Analyses & White Papers Room # 13:00 - 17:00 SAM	Quantitative Parameter Mapping Room # 13:00 - 17:00 CME	MRI Contrast to Measure Vascular Function Room # 13:00 - 17:00 CME	Microstructure: Relaxation, Magnetization Transfer & Susceptibility Room # 13:00 - 17:00 CME	MR Physics & Engineering II: Lost in k-Space? Room # 13:00 - 17:00 CME	Interventional MRI in Practice Crisis Management & Leadership Session Safety Room # 13:00 - 17:00 CE

“Sunrise” and evening sessions

8am start and 8pm finish!

Day 4: Tuesday, 10 May

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16:45 - 18:45 • Tuesday • Evening Sessions

In-Person Sessions

| Oral/Power Pitch | Oral/Power Pitch | Oral/Power Pitch | Educational: Body | Oral/Power Pitch | Educational: Physics & Engineering |
|------------------|------------------|------------------|--|------------------|------------------|------------------|------------------|------------------|---|
| Room #
CME | Room #
CME | Room #
CME | 2D-4D Flow & Perfusion in the Body: Methods & Clinical Applications
Room #
 | Room #
CME | Prefclinical Cardiac MRI
Room #
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In-Person Digital Posters (No CME Available)

Exhibition Hall							
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Online Power Pitches (Gather.town) (No CME Available)

Room #							
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Member-Initiated Symposia & Study Group Business Meetings (No CME Available)

Symposium Meeting

Room #
(No CME Credit)

Study Group Business Meeting

Room #
(No CME Credit)

Day 4: Tuesday, 10 May

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08:00-09:00 • Tuesday • Sunrise Sessions

Neuro	Cardiovascular	Body	Musculoskeletal	Transferable Skills	Image Acquisition	Software Tutorials for the Whole Community	Contrast Mechanisms	Physics & Engineering	Special Session
New Tools for the Neuroradiologist: MR Elastography in the Brain Room # SAM	Extending Cardiovascular MR: Learning CMR Image Reconstruction Room # 	Hot Topics in Body MRI: What's New in COVID-19-Related Imaging Room # SAM	Musculoskeletal Imaging: Optimal MR Imaging for Musculoskeletal Tumors Room # SAM	IP & Commercialization: MRI & Patents: Is It All About the Acronym? Room # CME	Acquisition & Analysis in Context: Imaging at Different Field Strengths Room # CME	Software Tool I & II Room # CME	Contrasts at Low & High Fields: MSK + Body Room # CME	Complementing MRI with Other Modalities: Hardware & Method Development: Multimodal Systems in Clinical Cancer Care Room # CME	Magnetic Moments Room # (No CME Credit)

Break: 09:00-09:15

Bronze Corporate Evening Symposium (No CME Credit)
T.B.A.
19:00-20:00

Manufacturer's events, "secret sessions", exhibition hall, ...



2022 Exhibitors

List Updates Frequently

Gold Corporate Members Exhibiting



All Exhibitors

American Board of Medical Physics	Analogic
Aspect Imaging	Axia3D
Bayer	BIOPAC Systems
BIR	Brain Products G
British Association of MR Radiographers (BAMR)	Bruker BioSpin G
CaliberMRI	Cambridge Reser
Canon Medical Olea	CIRS
Collective Minds Radiology	Cosmed
Cubresa	Current Designs
Doty Scientific	Esprodo Softwar
Flywheel	FUJIFILM Healthc
GE Healthcare	Gold Standard Pl
Hyperfine Portable MRI	Iconeus

Bronze Corporate Members Exhibiting



Associate Corporate Members Exhibiting



Hyperfine Portable MRI	Iconeus
International Electric (IECO)	ISMRM ISMRT
LMT Medical Systems	Magnetica
MAVIG GmbH	Max Planck School of Cognition
Mediso Medical Imaging Systems	Medi-Tech-Park (MR.comp GmbH) & Noras
Metrolab Technology SA	MR Shim
MR Solutions Ltd	Neos Blotec
NordicNeuroLab AS	North Medical
Nova Medical Inc	NUKEM Isotopes GmbH
NVision Imaging Technologies GmbH	ODU GmbH & Co. KG
OSENSA Innovations	Phantom Laboratory
Philips Healthcare	Polarean
Prodrive Technologies	PulseTeq
Pure Devices GmbH	RAPID Biomedical GmbH

Coping with the ISMRM Meeting

Does and don'ts

How do I get to see everything?!

Don't even try!

General tips and tricks

Do:

- Use the “Program at a glance” to highlight sessions likely to be of particular interest
- Use the online search tool/diary planner
 - (Not yet released for 2022)
- Go to the “Power Pitch” sessions for quick overviews

Don't:

- Try to fit in too much
 - You'll burn out by about day 2!
- Try to “session hop”
 - (You'll spend more time between sessions than in them, and will often find you miss the most important first/last minute of a talk anyway)

Potentially controversial!

Do:

- Try to at least skim read all posters (or at least those that are not clearly totally irrelevant)
 - Don't just rely on the search tool
 - There are often really interesting things in session/under titles you might not expect
 - Someone may have done something really clever in the knee that you can use in the brain (or vice versa)

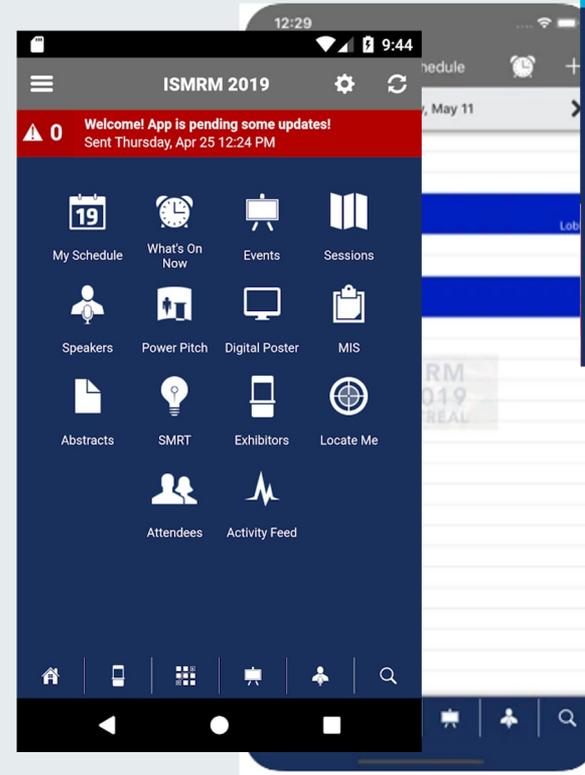
Don't

- Spend too much time in poster sessions
 - Unless you want to talk to the presenter, it is more efficient to browse the posters at other times

General tips and tricks (2)

Do:

- Install the app
 - Search “ISMRM” in your app store
 - (There will be data updates closer to the meeting to install/update the 2022 program)
- Install Twitter & Slack
 - Both of these are often used for interactive content.



<https://play.google.com/store/apps/details?id=com.coreapps.android.followme.ismrm2016>
<https://apps.apple.com/us/app/ismrm/id1097153950>

Things not to miss

Do try to get to (some of the):

- Opening and closing receptions:
 - Opening Reception; Sunday; 18:30-20:00;
Exhibition Hall
 - Closing Party; Thursday; 20:30-22:00;
Location T.B.A.

- “Newbies” reception (TBA)

- BIC social events

- Wednesday

- Student

member's events

evening entertainment!

(Usually for customers only, and require pre-registration; check with someone knowledgeable in your lab!)

Networking & Socializing
are important!!

General tips and tricks (3)

For image licences see:

[https://commons.wikimedia.org/wiki/File:London Eye Twilight April 2006.jpg](https://commons.wikimedia.org/wiki/File:London_Eye_Twilight_April_2006.jpg);

[https://commons.wikimedia.org/wiki/File:London Eye by Day.jpg](https://commons.wikimedia.org/wiki/File:London_Eye_by_Day.jpg);

[https://commons.wikimedia.org/wiki/File:Palace of Westminster, London - Feb 2007.jpg](https://commons.wikimedia.org/wiki/File:Palace_of_Westminster,_London_-_Feb_2007.jpg)

Do:

- Leave plenty of time to talk to friends and colleagues from around the world
 - (Don't be surprised if you end up talking to people who work in the lab next door more during ISMRM than the rest of the year)
- Make use of the coffee breaks
 - Set up meetings to discuss collaborations, etc,
 - (Don't worry if you then miss a talk in the next session – a collaboration that you maintain for the rest of your academic career is much more important, and the talks are recorded anyway!)

Do:

- Leave time to visit/see London
 - Play tourist in the evenings
 - Stay on for the Friday/weekend after the meeting?



- **Do the same (but for longer?!) when the ISMRM is outside the UK!**

After the meeting...

Do

- Set up a review session to compare notes with all your colleagues after the meeting
 - Have a “journal club” on one or two of the most interesting abstracts?
 - Get everyone who attended to present their top 5 abstracts?
 - ...
- Start thinking about future ISMRM meetings!
 - Abstract submission deadline is typically in November

2023 • Toronto

ISMRM & ISMRT Annual Meeting & Exhibition
03-08 June 2023
Toronto, ON, Canada

2024 • Singapore

ISMRM & ISMRT Annual Meeting & Exhibition
04-09 May 2024
Singapore

2025 • Honolulu

ISMRM & ISMRT Annual Meeting & Exhibition
10-15 May 2025
Honolulu, Hawai'i, USA

Final thoughts



Pace yourself!

Enjoy it!!!



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