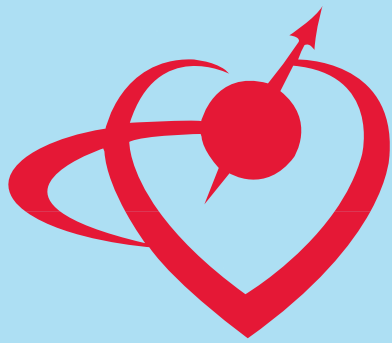




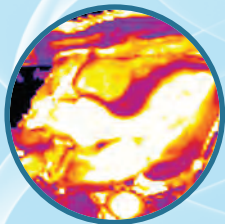
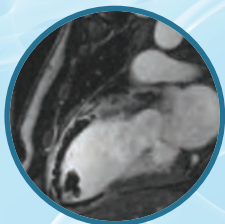
FINAL PROGRAM

SCMR

**Society for Cardiovascular
Magnetic Resonance**

16th Annual Scientific Sessions

January 30 - February 3, 2013



*Hilton San Francisco Union Square
San Francisco, California*

Jointly sponsored by SCMR and the University of Minnesota

www.scmr.org



Society for Cardiovascular Magnetic Resonance

16TH ANNUAL SCIENTIFIC SESSIONS • JANUARY 30 – FEBRUARY 3, 2013

Schedule at a Glance

	PLAZA A		IMPERIAL BALLROOM A	IMPERIAL BALLROOM B		
TIME	WEDNESDAY, JANUARY 30, 2013					
8:00 AM - 6:00 PM	SCMR/ISMRM Jointly Sponsored Workshop - Day 1					
TIME	THURSDAY, JANUARY 31, 2013					
8:00 AM - 6:00 PM	SCMR/ISMRM Jointly Sponsored Workshop - Day 2		Physicians Pre-conference Course	Congenital/Pediatric Pre-conference Course		
	GRAND BALLROOM A	YOSEMITE ROOMS A-B	IMPERIAL BALLROOM A	IMPERIAL BALLROOM B	PLAZA A	
TIME	FRIDAY, FEBRUARY 1, 2013					
7:00 AM - 8:00 AM		Case Review Session 1 - Perfusion Imaging by CMR: Both Usual and Unusual Cases	Physics for Physicians 1	Cardiology for Non-cardiologists 1		
8:00 AM - 9:30 AM	Welcome and Opening Plenary					
9:30 AM - 10:00 AM	CMR Questionnaire					
10:00 AM - 10:30 AM	Refreshment Break/Exhibits/Posters					
10:30 AM - 12:00 PM	Invited Lecture Session 1 MR Guided Interventions	Case Review 2 How Tissue Mapping Made a Difference	Oral Abstract Session 1 ECA Basic Science	Oral Abstract Session 2 - Cost Effectiveness of CMR, CT, Echo and Scintigraphy in Ischemic and Valvular Heart Disease		
12:00 PM - 12:30 PM	SCMR Business Meeting					
12:30 PM - 1:30 PM	Lunch/Exhibits/Posters					
1:30 PM - 3:00 PM	Invited Lecture Session 2 - Coronaries and Vessel Wall: Light on the Horizon?	Case Review 3 Congenital invited case session	Oral Abstract Session 3 ECA Basic Translational	Oral Abstract Session 4 - Non-ischemic Heart and Multiorgan Diseases	Technologist Workshop	
3:00 PM - 3:30 PM	Refreshment Break/Exhibits/Posters					
3:30 PM - 5:00 PM	Invited Lecture Session 3 - Multi-modality Imaging - To Enhance Therapy Guidance	Case Review 4 - Cardiac Masses: Correlating Imaging with Pathology	Oral Abstract Session 5 Cardiac Physiology and Metabolism	Oral Abstract Session 6 Quantification in Primary and Secondary CMP		
5:00 PM - 6:30 PM	Invited Lecture Session 4 - Perfusion: the Macro - and Microvasculature	Case Review 5 Not Your Bread and Butter Cases	Oral Abstract Session 7 - Imaging of Function in Congenital Heart Disease	Oral Abstract Session 8 - Impact of Extracardiac Disease on Cardiac Structure and Function		
6:30 PM - 7:30 PM	Moderated Poster Session 1/Poster Viewing/Wine and Cheese Reception					
	GRAND BALLROOM A	YOSEMITE ROOMS A-B	IMPERIAL BALLROOM A	IMPERIAL BALLROOM B	PLAZA A	
TIME	SATURDAY, FEBRUARY 2, 2013					
7:00 AM - 8:00 AM		Case Review 6 Fascinating Vascular Disease Cases	Physics for Physicians 2	Cardiology for Non-cardiologists 2		
8:00 AM - 9:30 AM	Invited Lecture Session 5 - NIHD: Inflammation and Myocardial Involvement in Systemic Disorder	Case Review 7 Best Cases from the SCMR Website	Oral Abstract Session 9 - Automation, Enhanced Efficiency, and Robustness of CMR	Oral Abstract Session 10 - Vascular MRI: Flow, Angiography, and Tissue Perfusion		
9:30 AM - 10:00 AM	Refreshment Break/Exhibits/Posters					
10:00 AM - 11:30 AM	Invited Lecture Session 6 - Cardiac T1 Mapping: Methods and Applications	Invited Lecture Session 7 - Advanced Acceleration Techniques: Faster IS Better	Oral Abstract Session 11 - Basic Translational - Pre Clinical: From PET-MRI to Nanoparticles.	Invited Lecture Session 8 - CMR Useful to Differentiate the Acute Coronary Syndrome	Technologist Workshop	
11:30 AM - 12:30 PM	Moderated Poster Session 2/Lunch/Exhibits/Posters					
12:30 PM - 2:00 PM	Invited Lecture Session 9 - Congenital 1: CMR in Adults with Congenital Cardiac Disease	Case Review 8 - When CMR Complements Other Modalities	Oral Abstract Session 12 ECA Clinical	Oral Abstract Session 13 - CAD: Infarct Age, Size, Heterogeneity, Symptoms and Effect on Atrial Volumes		
2:00 PM - 2:30 PM	Refreshment Break/Exhibits/Posters					
2:30 PM - 4:00 PM	Invited Lecture Session 10 - Congenital 2: Advanced Pediatric Cardiac CMR in 2013 – Pushing the Envelope	Case Review 9 Things That Are Bright That Are Not MI	Oral Abstract Session 14 - Basic Translational - Post Processing: Function, Perfusion, Hemodynamics and Angiogenesis	Oral Abstract Session 15 - Procedure-planning, Monitoring, and Outcome in Electrophysiology		
4:00 PM - 5:30 PM	Invited Lecture Session 11 - High Throughput/CMR in Clinical Practice - Impact of Protocols	Invited Lecture Session 12 - Wide Spectrum of Flow- Assessment Beyond Routine: From Computational Modeling to 4D	Oral Abstract Session 16 - Risk Stratification in Ischemic and Non-ischemic Cardiomyopathies: From Flow-reserve to Contrast-enhancement	Oral Abstract Session 17 - Imaging of Structure in Congenital Heart Disease		
5:30 PM - 6:00 PM	CMR Technology Updates					
6:00 PM - 6:30 PM	Awards Ceremony					
6:30 PM - 8:00 PM	Awards Reception in Golden Gate Room					
	GRAND BALLROOM A	YOSEMITE ROOMS A-B	IMPERIAL BALLROOM A	IMPERIAL BALLROOM B	PLAZA A	
TIME	SUNDAY, FEBRUARY 3, 2013					
7:00 AM - 8:00 AM			Physics for Physicians 3	Cardiology for Non-cardiologists 3		
8:00 AM - 9:30 AM	Invited Lecture Session 13 - Post-processing Methods: Pro and Con for Quantification	Case Review 10 Congenital	Invited Lecture Session 14 - Emerging Technology CMR and Beyond	Oral Abstract Session 18 - Ischemia and Viability: Ischemic Burden, Reperfusion Injury, Fractional Flow Reserve and Manganese Enhanced Stem Cell Imaging		
9:30 AM - 10:00 AM	Refreshment Break					
10:00 AM - 11:30 AM	Invited Lecture Session 15 NIHD Heart Failure - CMR to Guide Therapy	Invited Lecture Session 16 The Cardiovascular System - Metabolism and Endothelium	Invited Lecture Session 17 Small Animal MRI: Technical Aspects and Animal Models	Oral Abstract Session 19 Basic Translational - New Techniques: Myocardial and Whole-body Tissue Characterization, T1, and Flow Mapping	Technologist Workshop	
11:30 AM - 1:00 PM	Closing Plenary Session					
1:00 PM - 1:30 PM	Closing Remarks/Highlights from 2013 Scientific Sessions					

Welcome

Dear Colleagues and Friends,

Welcome to the 16th Annual Scientific Sessions of the Society for Cardiovascular Magnetic Resonance (SCMR). We are blessed by a beautiful environment for this meeting in San Francisco, California.

The annual meeting is one of the most important and most visible functions of the SCMR. This year, the program comprehensively addresses the latest scientific investigation using CMR to study health and disease. The program also offers an extensive clinical track and serious sessions on technical topics. The breadth of the program mirrors the diverse expertise and interests of our SCMR members. Whether an engineer, physicist, radiologist, congenital/pediatric specialist, cardiologist, or technologist, the program has sessions dedicated to each of these important components that make up the larger field of CMR.

I am particularly looking forward to the focus this year on high field cardiovascular CMR. The SCMR/ISMRM Jointly Sponsored Workshop and the Opening Plenary bring our most comprehensive coverage to date on this emerging aspect of CMR. Some may wonder why high field is important since CMR works so well at 1.5T. As attendees will see, there are applications that are enabled at high field that are not feasible at 1.5T. There are also the realities that many imaging centers have 3T scanners so it becomes imperative that we find ways to make CMR efficient on these and higher field systems. We are fortunate to have Kamil Ugurbil, Hildo Lamb, and Dudley Pennell speaking in the Opening Plenary on related topics.

We should not forget the strength of the educational components of the meeting. The clinical tracks offer a wide variety of case presentations that are interesting and graphically illustrate how CMR can help diagnose various diseases and conditions. Similarly, the morning sessions of Physics for Physicians and Cardiology for Non-cardiologists are aimed to develop the cross-fertilization that helps each side of the clinical and technical team understand how the other thinks about important issues and questions. For more extensive training, physicians can opt for the Physicians Pre-conference which is both an excellent introduction to the field as well as a comprehensive overview for review. Similarly, the Congenital/Pediatric Pre-conference is a course that focuses on issues specifically important to congenital disease and pediatric imaging.

The abstract sessions offer a glimpse of the future, both in terms of latest research and in terms of new scientists and physicians doing research in CMR. The best oral abstract and poster presentations will be selected for Early Career Awards, a difficult selection process due to the large number of truly excellent research studies. The number and quality of the submissions continues to exceed expectations so this year promises to be yet another great scientific session.

I hope you enjoy the meeting and make use of the time to catch up with friends and colleagues from around the world of CMR.



Andrew Arai, MD
President, SCMR

COVER PHOTO CREDIT: First and third small images - compliments of Jens Bremerich, MD, Second small image - compliments of Jeanette Schulz-Menger, MD, Large image-compliments of Tino Ebbers, PhD

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SCMR Vision Statement

The Society for Cardiovascular Magnetic Resonance (SCMR) will be the leading international representative and advocate for all physicians, scientists, and technologists working in CMR to improve patient outcomes through excellence in education, training, standards, research and development.

The mission of SCMR is to:

- Be the premier international model and provider of CMR education, training, standards development, and accreditation.
- Maximize clinical effectiveness of CMR through coordinated comparative effectiveness research efforts resulting in evidence-based guidelines to enhance patient care and outcomes.
- Continually enhance the accuracy, efficiency, and effectiveness of CMR in cardiovascular healthcare through technological advances.
- Promote scientific exchange through organization of an annual international scientific conference, publication of the *Journal of Cardiovascular Magnetic Resonance*, and interactive internet-enabled tools including the SCMR website.
- Build an expanding global membership of physicians, scientists, technologists, and interested healthcare partners focused on clinical applications and research in CMR.
- Develop and advance close working alliances with related societies, industry partners, and governmental and regulatory agencies to more effectively integrate and elevate the use of CMR within cardiovascular healthcare.

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The Society for Cardiovascular Magnetic Resonance



THE GOALS OF THE CONFERENCE ARE TO:

- Deliver state of the art information on the science of CMR imaging and spectroscopy
- Provide a forum for the presentation of new information on CMR
- Compare and contrast CMR methods with other cardiovascular imaging approaches

AT THE CONCLUSION OF THE SCIENTIFIC SESSIONS, PARTICIPANTS SHOULD BE BETTER ABLE TO:

- Discuss differences between research and clinical routine
- Recommend an imaging modality to identify and diagnose cardiovascular disorders
- Integrate CMR into their professional settings

2013 Gold Medal Award

The Board of Trustees of the Society for Cardiovascular Magnetic Resonance (SCMR) is pleased to announce that Stefan Neubauer, MD, Professor of Cardiovascular Medicine and Clinical Director of the Centre for CMR Research at the University of Oxford, is the 2013 recipient of the SCMR Gold Medal Award. The award is presented annually by the SCMR for outstanding achievement in the field of CMR as well as exemplary service to the Society. Dr. Neubauer has excelled in both throughout his distinguished career.

Professor Neubauer began his research in CMR almost 30 years ago, and his work is considered to be the broadest of any investigator in this field. He has pioneered the development and application of CMR methods in both the experimental and clinical settings. The scope of his research has ranged from CMR imaging to spectroscopy, from mice to patients. Dr. Neubauer has contributed to the future of the field through his mentorship of students and fellows.

Dr. Neubauer has dedicated invaluable time and energy to SCMR. As President of the Society from 2006-2008, he guided its continued focus on the improvement and growth of CMR and instituted many of the initiatives to standardize clinical CMR which are in practice today. He has been on the Editorial Board of the JCMR since its inception and is presently an Associate Editor.

Please join the SCMR Board of Trustees at the Awards Ceremony on Saturday evening as the Society congratulates Dr. Neubauer on his achievements and thanks him for his dedication.

Past SCMR Gold Medal Awardees:

2012 Dudley Pennell, MD

2011 Charles Higgins, MD and Gerald Pohost, MD

CONTINUING MEDICAL EDUCATION CREDIT INFORMATION

Scientific Sessions

This activity has been planned and implemented in accordance with the Essential Areas and Policies of the Accreditation Council for Continuing Medical Education (ACCME) through the joint sponsorship of the University of Minnesota and the Society for Cardiovascular Magnetic Resonance. The University of Minnesota is accredited by the ACCME to provide continuing medical education for physicians.

The University of Minnesota designates this live activity for a maximum of 30.75 AMA PRA Category 1 Credit(s)TM.

- > Physician Pre-conference Course - 8 AMA PRA Category 1 CreditsTM
- > Congenital/Pediatric Pre-conference Course – 8 AMA PRA Category 1 CreditsTM
- > 2013 Scientific Sessions - 22.75 AMA PRA Category 1 CreditsTM

Physicians should claim only the credit commensurate with the extent of their participation in the activity.

Other Healthcare Professionals who participate in this CME activity may submit their Statements of Attendance to their appropriate accrediting organizations or state boards for consideration of credit. The participant is responsible for determining whether this activity meets the requirements for acceptable continuing education.

Technologist Workshop

This activity has been approved for credit by the American Society of Radiologic Technology (ASRT) for a maximum of 17.5 CE credits.

Each technologist should claim only those hours of credit actually spent in this activity.



General Information

Admission

Conference name badges are required for admission to all activities related to the 16th Annual Scientific Sessions, including the exhibit hall and social events.

Registration Hours

The 2013 SCMR Registration Desk is located in the Yosemite Ballroom Foyer. The Registration Desk will be open and staffed during the following hours:

Wednesday, January 30	12:00 pm – 6:30 pm
Thursday, January 31	7:00 am – 6:00 pm
Friday, February 1	6:30 am – 6:30 pm
Saturday, February 2	6:30 am – 6:30 pm
Sunday, February 3	6:30 am – 2:00 pm

Acknowledgements

The Society for Cardiovascular Magnetic Resonance gratefully acknowledges the support of these scientific sessions and SCMR's objectives from our industry supporters:

Siemens Healthcare
Heart Imaging Technologies
cvi+
Medis medical imaging systems, Inc.

Exhibits

Educational and informational exhibits will be available in Grand Ballroom B during the Scientific Sessions. Exhibiting company representatives will be available to answer your questions about their products and services. Please visit the exhibits and thank the representatives for their support. The complete list of exhibits can be found on pages 63-65.

Friday, February 2	10:00 am – 7:30 pm
Saturday, February 3	7:00 am – 4:00 pm

Pictures/Filming

SCMR requests that all attendees refrain from taking pictures and/or filming the presentations.

Mobile Devices

As a courtesy to the speakers and your fellow attendees, please switch your mobile device(s) to silent while attending the sessions.

Speaker Ready Room

The 2013 Program Committee is committed to providing attendees cutting edge technology and coordinated presentations at the Scientific Sessions. To be fully prepared for your session, each presenter is requested to visit the Speaker Ready Room at least 24 hours prior to your presentation. The Speaker Ready Room is located in the Franciscan C Room and will be open the following days and times:

Wednesday, January 30	5:00 pm – 8:00 pm
Thursday, January 31	7:00 am – 6:00 pm
Friday, February 1	7:00 am – 6:00 pm
Saturday, February 2	7:00 am – 6:00 pm
Sunday, February 3	7:00 am – 12:00 pm

Disclosure Statement

It is the policy of the University of Minnesota - Office of Continuing Medical Education to insure balance, independence, objectivity and scientific rigor in all of its sponsored educational activities. All participating speakers and moderators, course directors, and planning committee members are required to disclose to the program audience any financial relationships related to the subject matter of this program. Relationships of spouse/partner with proprietary entities producing healthcare goods or services should be disclosed if they are of a nature that may influence the objectivity of the individual in a position to control the content of the CME activity. Disclosure information is reviewed in advance in order to manage and resolve any possible conflicts of interest. Specific faculty disclosure information for each speaker, course director, and planning committee member will be shared with the audience prior to the speaker's presentation.

A complete list of disclosures is available on pages 60-62.

Evaluations and CME Tracking Forms

At the conclusion of the SCMR Scientific Sessions, you will receive an invitation to complete the meeting survey. Please take the time to complete this survey as it provides very important feedback for future programming. Thank you, in advance, for completing the evaluation...your opinion and feedback matter!

You must complete the University of Minnesota CME Tracking Form in order to receive your CME certificate. After completing the Tracking Form, please return it to the SCMR Registration Desk or email it to SCMRMTG@talley.com. The information on the forms will be compiled and sent to the University of Minnesota for processing. The University of Minnesota will issue the CME certificate to you.

Physician Pre-conference Course

Thursday January 31, 2013

8:00 AM – 6:00 PM

Imperial Ballroom A

Physician's Pre-conference Course Educational Objectives:

Upon completion of this educational activity, the participant should be better able to:

- Modify sequence parameters to enhance MR image quality and to identify common artifacts
- Plan, perform, and read cardiac MRI including stress test
- Recognize the current common pulse sequence techniques and their potential clinical applications

8:00 am – 8:10 am **Introductory Remarks**

Co-chairs: Steffen Petersen, MD, PhD, Barts and The London NHS Trust
Subha Raman, MD, The Ohio State University

8:10 am – 9:50 am **Basics of CMR**

8:10 am **Basics: Spins and Hardware**

Michael Salerno, MD, PhD, University of Virginia

8:30 am **Black-blood Sequences**

Rebecca Thornhill, MSc, University of Ottawa

8:50 am **Bright-blood Sequences**

Colin Berry, PhD, University of Glasgow

9:10 am **Let's Go Faster: Parallel Acquisition Techniques**

Daniel Ennis, PhD, University of California-Los Angeles

9:30 am **Dealing with Breathing Artifacts and Arrhythmia**

Robert Judd, PhD, Duke Cardiovascular Magnetic Resonance Center

9:50 am – 10:10 am **Morning Break**

10:10 am – 12:10 pm **How To Sessions**

10:10 am **How to Measure Regional and Global Ventricular Function**

Steffen Petersen, MD, PhD, Barts and The London NHS Trust

10:30 am **How to Quantify Blood Flow**

Alex Pitcher, MD, The John Radcliffe Hospital

10:50 am **How to Perform High-quality Delayed Enhancement**

Alexander Dick MD, Sunnybrook Health Sciences Centre

11:10 am **How to Optimize MR Angiography**

Robert Edelman, MD, Evanston Hospital

11:30 am **How to Assess the Coronary Arteries Using CMR**

Yuchi Han, MD, University of Pennsylvania

11:50 am **How to Assess Myocardial Iron Overload**

John-Paul Carpenter, MD, Royal Brompton & Harefield NHS Foundation Trust

12:10 pm – 1:10 pm **Lunch (on own)**

1:10 pm – 3:10 pm **Clinical Applications of CMR - Part 1**

1:10 pm **Optimizing Efficiency of Protocols**

J. Ronald Mikolich, MD, Sharon Regional Health System

1:30 pm **CMR to Assess the Etiology of Cardiomyopathy**

Carlos Rochitte, MD, Heart Institute - InCor

1:50 pm **CMR in the Assessment of Arrhythmic Substrate**

Ralf Wassmuth, MD, Charité Medical University and HELIOS

2:10 pm **CMR in Suspected Acute Myocarditis**

Ian Paterson, MD, University of Alberta

2:30 pm **CMR in Myocardial Ischemia**

Stephen Harden, MD, University Hospital Southampton

2:50 pm **CMR in Myocardial Viability**

Anna Herrey, MD, Children's Hospital Boston

3:10 pm – 3:40 pm **Afternoon Break**

3:40 pm – 5:20 pm **Clinical Applications of CMR - Part 2**

3:40 pm **CMR in Congenital Heart Disease**

Anne Marie Valente, MD, Children's Hospital Boston

4:00 pm **CMR in Valvular Disease**

Gerald McCann, BSc, MB, ChB, University Hospitals of Leicester

4:20 pm **CMR in Pericardial Disease**

Frederick Ruberg, MD, Boston University School of Medicine

4:40 pm **CMR in the Assessment of Intracardiac Mass**

Jonathan Weinsaft, MD, Cornell University

Physician Pre-conference Course

5:00 pm **Knowing When to Choose CMR in a Multimodality Imaging Climate**

Francesca Pugliese, MD, PhD, Barts and The London NHS Trust

5:20 pm – 6:00 pm **Panel Discussion of Submitted Questions**

Patricia Bandettini, MD, NHLBI

Chiara Bucciarelli-Ducci, MD, Bristol Heart Institute

Matthias Friedrich, MD, CMR Centre at the Montreal Heart Institute

Jonathan Leipsic, MD, University of British Columbia

Albert van Rossum, MD, PhD, VU Medical Center

Congenital/Pediatric Pre-conference Course

Thursday January 31, 2013

8:00 AM – 6:00 PM

Imperial Ballroom B

Congenital/Pediatric Pre-conference Course Educational Objectives:

Upon completion of this educational activity, the participant should be better able to:

- Discuss current and new applications where CMR helps in the diagnosis or management of congenital and adult congenital cardiovascular disease
- Describe what CMR technology can provide in the management of congenital heart disease

8:00 am – 8:05 am **Introductory Remarks**

Co-chair: Lars Grosse-Wortmann, MD, Hospital for Sick Children

8:05 am – 9:50 am **Session I – Setting the Stage**

8:05 am **Speaking the Same Language: Sequential Segmental Approach to Cardiac Anatomy**

Shi-Joon Yoo, MD, Hospital for Sick Children

8:50 am **Smaller, Faster, and Moving: Strategies for Scanning Young and Very Young Patients**

Taylor Chung, MD, Children's Hospital and Research Center

9:20 am **Getting the Best of All Worlds: Echo, CMR, CTA**

Ashwin Prakash, MD, Children's Hospital Boston

9:50 am – 10:10 am **Morning Break**

10:10 am – 12:10 pm **Session II – Pediatric CMR Tools**

10:10 am **Ventricular Volumes: How to Get and How to Interpret Them**

Margaret Samyn, MD, Children's Hospital of Wisconsin

10:30 am **Outside the Heart: Angiography with and without Contrast**

Tarique Hussain, MD, King's College London

10:55 am **Viability Imaging in Pediatric Heart Disease**

Aurielo Secinaro, MD, Ospedale Pediatrico Bambino Gesù

11:15 am **Cardiac Masses: Non-invasive Tumor Characterization with CMR**

Beth Printz, MD, PhD, University of California-San Diego

11:35 pm **Pulmonary Hypertension Assessment with MR**

Vivek Muthurangu, MD, Centre for Cardiovascular Imaging

11:55 pm **Q and A/Discussion**

12:10 pm – 1:10 pm **Lunch (on own)**

1:10 pm – 3:10 pm **Session III – Main Clinical Indications**

1:10 pm **The Big Three: Tetralogy of Fallot, Transposition, and Coarctation of Aorta**

Andrew Powell, MD, Children's Hospital Boston

1:50 pm **The Cardiomyopathies: ARVC, DCM, HCM**

Lars Grosse-Wortmann, MD, Hospital for Sick Children

2:20 pm **Hypoplastic Left Heart Syndrome: CMR through the Stages**

Kevin Whitehead, MD, PhD, Children's Hospital of Philadelphia

2:50 pm **Rings, Slings, and Things**

Karen Ordovas, MD, University of California-San Francisco

Congenital/Pediatric Pre-conference Course

3:10 pm – 3:40 pm Afternoon Break

3:40 pm – 5:45 pm Session IV – Applying Your Skills

3:40 pm **How to Combine Flow and Function: Quantifying Shunts, Regurgitation, Obstruction**

Shaine Morris, MD, Texas Children's Hospital

4:10 pm **How to Get It Across: Composing Your Best CMR Report**

William Drake, MD, MS, The Children's Mercy Hospital

4:30 pm **Putting It All Together: Clinical Cases with an Edge**

4:30 pm Matthew Harris, MD, Children's Hospital of Philadelphia

4:45 pm Ruchira Garg, MD, Miami Children's Hospital

5:00 pm Adam Dorfman, MD, University of Michigan Health Systems

5:15 pm Tiffany Johnson, MD, Riley Hospital for Children

5:30 pm **Questions and Open Communication**

Joachim Eichorn, MD, University Children's Hospital
Lars Grosse-Wortmann, MD, Hospital for Sick Children

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Visit the SCMR website www.scmr.org for additional membership and Society information.

Friday, February 1, 2013

6:45 am – 8:00 am **Continental Breakfast** **Grand Ballroom B**

7:00 am – 8:00 am **Physics for Physicians 1** **Imperial Ballroom A**

Moderators: Sonia Nilles-Vallespin, PhD, NIH
David Firmin, MD, Royal Brompton Hospital

7:00 am **Hardware: Scanner and Basic Spin Gymnastics**

Michael Markl, PhD, Northwestern University

7:15 am **Basic MR Sequence and Reconstruction**

David Firmin, PhD, Royal Brompton Hospital

7:30 am **Different Sequence Contrasts**

Peter Boernert, PhD, Philips Research

7:45 am **Q and A/Discussion**

7:00 am – 8:00 am **Cardiology for Non-cardiologists** **Imperial Ballroom B**

Moderators: Peter Buser, MD, University Hospital Basel
Karen Ordovas, MD, University of California - San Francisco

7:00 am **Atherosclerosis from A to Z**

Monvadi Srithai-Parsia, MD, New York University

7:20 am **Myocardial Reaction to Ischemia**

John Greenwood, MBChB, PhD, University of Leeds

7:40 am **Case Presentation: Ischemic Cardiomyopathy with CMR Stress Imaging**

Rolf Gebker, MD, German Heart Institute Berlin

7:50 am **Q and A/Discussion**

7:00 am - 8:00 am **Case Review Session 1 - Perfusion Imaging by CMR: Both Usual and Unusual Cases** **Yosemite A-B**

Moderators: Colin Berry, PhD, University of Glasgow
Sven Plein, MD, PhD, University of Leeds

Why Is This Nurse Still Breathless after His Primary PCI? Should We Open It or Close It?

Mohammed Khanji, MB BCH, Queen Mary University of London

A Troublesome Coronary - Can We Fix It ? (A CMR verdict.)

Djeven Deva, MD, St. Michael's Hospital

A Congenital Conundrum - Not Normal for Noonans!

Andrew Crean, MD, Toronto General Hospital

Is Stress CMR Useful in the Management of a Patient with Severe Cad?

Ermanno Capuano, MD, Queen Mary University of London

Case Presentation - Perfusion

Gerry McCann, BSc, MB, ChB, MRCP, University Hospital Leicester

8:00 am – 8:15 am **Welcome and Opening Comments** **Grand Ballroom A**

Andrew Arai, MD, SCMR President

8:15 am – 9:30 am **Opening Plenary Session** **Grand Ballroom A**

Moderators: Jens Bremerich, MD, University of Basel

Jeanette Schulz-Menger, MD, Charité Medical University and HELIOS

Upon completion of this educational activity, the participant should be better able to:

- Identify recent developments in CMR
- Discuss the impact of fat imaging for risk stratification
- Explain the current stage of diffusion imaging

8:15 am **Learning Lessons from the Brain: Human Connectome – Connected to the Heart?**

Kamil Ugurbil, PhD, University of Minnesota

8:35 am **Impact of Fat for Differentiation and Risk Stratification**

Hildo Lamb, MD, PhD, Leiden University Medical Center

8:55 am **New Techniques: Diffusion from Dream to Earth**

Dudley Pennell, MD, Royal Brompton Hospital

9:15 am **Q and A/Discussion**

9:30 am – 10:00 am **CMR Questionnaire** **Grand Ballroom A**

Moderator: Gerald Pohost, MD, University of Southern California

10:00 am – 10:30 am **Morning Break/ Posters/Exhibits** **Grand Ballroom B**

Scientific Sessions



10:30 am – 12:00 pm Concurrent Sessions

10:30 am Invited Lecture Session 1 – Grand Ballroom A MRI Guided Interventions

Moderators: Robert Balaban, MD, NIH

Frederick Epstein, PhD, University of Virginia

Upon completion of this educational activity, the participant should be better able to:

- Recognize the benefits of MRI guided cardiac catheterization
- Review clinical experience of MRI guided right heart catheterization
- Understand the role of MR imaging methods to characterize scar for treatment planning and ablation lesions for outcomes assessment in patients with complex arrhythmias

10:30 am MRI Guided Right Heart Catheterization: Clinical Experience

Kanishka Ratnayaka, MD, NHLBI

10:50 am Novel Devices for Interventional MRI

Charles Dumoulin, PhD, Cincinnati

Children's Hospital Medical Center

11:10 am MRI Guided EP: Planning and Assessment

Graham Wright, PhD, Sunnybrook Health

Sciences Centre

11:30 am MRI Guided EP: Procedure Guidance

Matthias Gutberlet, MD, PhD, University Leipzig/Heart

Center Leipzig

11:50 am Q and A/Discussion

10:30 am Case Review Session 2 - Yosemite A-B How Tissue Mapping Made a Difference

Moderators: James Moon, MD, The Heart Hospital

Mark Westwood, MD, The London Chest Hospital

Left Atrial Appendage Thrombus; Young or Old? Role of CMR in Definition

Sahadev Reddy, MD, Allegheny General Hospital

Acute Myocarditis Healing as seen by Serial Cardiac Magnetic Resonance Imaging: A Case Report

Tamara Rothstein, CDPI - Clínica de Diagnóstico por Imagem

10:30 am Oral Abstract Session 1 - Imperial Ballroom A Early Career Award - Basic Science

Dedicated to the memory of Stefan Fischer

Moderators: Stefan Neubauer, MD, University of Oxford

Debiao Li, PhD, Cedars-Sinai Medical Center

10:30 am O 1 Ungated Cine First-Pass CMR for Concurrent Imaging of Myocardial Perfusion Defects and Wall Motion Abnormalities

Behzad Sharif, PhD, Cedars-Sinai Medical Center

10:45 am O 2 Cellular Hypertrophy Occurs before Interstitial Fibrosis in Pressure-overload Heart Failure

Ravi Shah, MD, Brigham and Women's Hospital

11:00 am O 3 Eliminating Dark-Rim Artifacts in First-Pass Myocardial Perfusion Imaging

Behzad Sharif, PhD, Cedars-Sinai Medical Center

11:15 am O 4 Molecular Assessment of Aortic Aneurysm Wall Integrity Using an Elastin-Specific MR Imaging Probe

Marcus Makowski, MD, King's College London

11:30 am O 5 Improved Fat Signal Suppression for Coronary MRA at 3T Using a Water-Selective Adiabatic T2-Prep Technique

Andrew Coristine, University of Lausanne

11:45 am O 6 High Resolution Spiral Myocardial Phase Velocity Mapping (PVM) of the Entire Cardiac Cycle

Robin Simpson, MPhys, Royal Brompton Hospital

10:30 am Oral Abstract Session 2 - Imperial Ballroom B Cost Effectiveness of CMR, CT, Echo and Scintigraphy in Ischemic and Valvular Heart Disease

Moderators: Peter Buser, MD, University Hospital Basel

Karen Ordovas, MD, University of California - San Francisco

10:30 am Introductory Presentation

Peter Buser, MD, University Hospital Basel

10:38 am O 7 Cost-Effectiveness of Magnetic Resonance Imaging in Coronary Heart Disease: An Economic Evaluation Using Data from the CE-MARC Study

John Greenwood, MBChB, PhD, University of Leeds

10:50 am O 8 Cost-effectiveness of Dobutamine Stress Cardiac Magnetic Resonance Imaging in Stable Coronary Artery Disease – A Post-hoc Analysis

Sebastian Kelle, MD, PhD, German Heart Institute Berlin

11:02 am O 9 Stress Myocardial Perfusion Cardiac Magnetic Resonance Imaging vs. Coronary CT Angiography in the Diagnostic Work-up of Patients with Stable Chest Pain: Comparative Effectiveness and Costs

Steffen Petersen, MD, PhD, Barts and The London NHS Trust

11:14 am O 10 Comparative Use of Exercise Tolerance Testing, SPECT and CMR, Alone and in Combination, for the Diagnosis of Coronary Heart Disease in the CE-MARC Study

John Greenwood, MBChB, PhD, University of Leeds

11:26 am O 11 Discrepancies in Ejection Fraction Measurements between Echocardiography and Cardiovascular Magnetic Resonance Lead to Different Clinical Classifications

Florian Andre, MD, University of Heidelberg

11:38 am O 12 Accuracy of Aortic Root Annulus Assessment with Cardiac Magnetic Resonance in Patients referred for Transcatheter Aortic Valve Implantation: A Comparison with Multi-Detector Computed Tomography

Gianluca Pontone, Centro Cardiologico Monzino IRCCS

11:50 am Q and A/Discussion

12:00 pm – 12:30 pm SCMR Business Meeting Grand Ballroom A

12:30 pm – 1:30 pm Lunch (on own)/Posters/Exhibits

1:30 pm – 3:00 pm Concurrent Sessions

1:30 pm Invited Lecture Session 2 – Grand Ballroom A Coronaries and Vessel Wall: Light on the Horizon?

Moderators: Michael McConnell, MD, Stanford University

Matthias Stuber, PhD, Lausanne University

Upon completion of this educational activity, the participant should be better able to:

- Describe the current status of coronary MRI for the detection of luminal coronary disease
- Recognize the value of anatomical indices and their link with early atherosclerosis
- Recognize the value of contrast enhancement mechanisms for atherosclerosis characterization in the aorta and the carotids
- Make an informed decision to whether or not to use contrast for peripheral angiography

1:30 pm Coronary Imaging in 2013

Warren Manning, MD, Beth Israel Deaconess Medical Center

1:45 pm Coronary Wall: Is Thickness the Holy Grail?

Michael McConnell, MD, Stanford University

2:00 pm The Aortic and Carotid Lumen: Contrast is Key

Jens Bremerich, MD, University Hospital Basel

2:15 pm Peripheral Lumen: The Promise of Non-contrast Methods

James Carr, PhD, Northwestern University

2:30 pm Multi-spectral Imaging of the Non-coronary Wall

Chun Yuan, PhD, University of Washington

2:45 pm Q and A/Discussion

1:30 pm Case Review Session 3 - Great CMR Cases to make a Controversial Point

Yosemite A-B

Moderators: Mark Fogel, MD, Children's Hospital of Philadelphia

Gerald Greil, MD, King's College London

1:30 pm 3 Tesla is Great for Pediatric CMR - This Is Why

Christopher Hart, MD, Universitaetsklinik Kiel

1:45 pm 3 Tesla is Disappointing in Pediatric CMR - This Is Why

Michael Taylor, MD, PhD, Cincinnati Children's Hospital Medical Center

2:00 pm CMR in Pregnant Women with CHD - Does It Make a Difference in Management?

Rachel Wald, MD, Hospital for Sick Children

2:15 pm Low-dose CT is Preferable to CMR for Complex Cardiovascular Anatomy - This Is Why

Matthias Gutberlet, MD, University Leipzig/Heart Center Leipzig

2:30 pm CMR Myocardial Perfusion in Children: Why It's Useful in Clinical Practice

Emanuela Valsangiacomo-Buechel, MD, Kinderspital Zuerich

2:45 pm Imaging Coronary Artery Anomalies: How Done Best to Assess SCD Risk?

Paolo Angelini, MD, Texas Heart Institute

1:30 pm Oral Abstract Session 3 – Imperial Ballroom A Early Career Award - Basic Translational

Moderators: Andrew Arai, MD, NHLBI

Eike Nagel, MD, PhD, King's College London

1:30 pm O 13 A New Definition of Left Ventricular Compaction/Noncompaction – The New Gold-Standard?

Gaby Captur, SpR, The Heart Hospital

1:45 pm O 14 T1 Mapping for Myocardial Extracellular Volume Measurement by Cardiovascular Magnetic Resonance: Bolus Only vs Primed Infusion Technique

Steven White, BSc, MBChB, The Heart Hospital

- 2:00 pm** **O 15 Myocardial Salvage by T2W-CMR: Direct Comparison to a Non-Destructive, High Resolution, 3-Dimensional Ex-Vivo Assessment of the Area At Risk Simultaneous with Infarction**
Lowie Van Assche, MD, Duke University
- 2:15 pm** **O 16 Histological Validation of Dynamic-Equilibrium Cardiovascular Magnetic Resonance for the Measurement of Myocardial Extracellular Volume**
Christopher Miller, MBChB, University Hospital of South Manchester
- 2:30 pm** **O 17 Evaluating the Extent of Acute Radiofrequency Ablation Lesions in the Heart Using an Inversion Recovery SSFP Sequence**
Haydar Celik, PhD, Sunnybrook Research Institute
- 2:45 pm** **O 18 Magnetic Resonance Imaging of Acute and Chronic Atrial Ablation Injury – A Histological Validation Study**
James Harrison, MA BM BCh, King's College London
- 1:30 PM** **Oral Abstract Session 4 - Imperial Ballroom B**
Non-ischemic Heart and Multiorgan Diseases
Moderators: Raymond Kwong, MD, MPH, Brigham and Women's Hospital
Valentina Puntmann, MD, PhD, King's College London
- 1:30 pm** **Introductory Presentation**
Raymond Kwong, MD, MPH, Brigham and Women's Hospital
- 1:38 pm** **O 19 Quantitative Assessment of Myocardial Extracellular Volume Fraction in Non-ischemic Dilated Cardiomyopathy and Its Relation to Systolic Dysfunction**
Aamir Ali, MBChB, Royal Brompton Hospital
- 1:50 pm** **O 20 Insulin Resistance, Subclinical Left Ventricular Remodeling, and the Obesity Paradox: The Multi-Ethnic Study of Atherosclerosis**
Ravi Shah, MD, Brigham and Women's Hospital
- 2:02 pm** **O 21 T1 Measurements Identify Extracellular Volume Expansion in a Genotyped Hypertrophic Cardiomyopathy in Population With and Without Left Ventricular Hypertrophy**
Siddique Abbasi, MD, Brigham and Women's Hospital
- 2:14 pm** **O 22 Native T1 Mapping by Cardiovascular Resonance Imaging Detects Subclinical Cardiomyopathy in Patients with Systemic Lupus Erythematosus**
Valentina Puntmann, MD, PhD, King's College London
- 2:26 pm** **O 23 Cardiac Magnetic Resonance in Acute Rheumatic Fever**
Alfredo Augusto Eyer Rodrigues, MD, Federal University of Sao Paulo
- 2:38 pm** **O 24 Impaired Myocardial Perfusion in Moderate Asymptomatic Aortic Stenosis Relates to Longitudinal Strain but Not Non-contrast T1 Values**
Sacha Bull, MRCP, Oxford Centre for Clinical Magnetic Resonance Research
- 2:50 pm** **Q and A/Discussion**
- 3:00 PM – 3:30 PM** **Afternoon Break/Posters/Exhibits**
- 3:30 PM – 5:00 PM** **Concurrent Sessions**
- 3:30 pm** **Invited Lecture Session 3 - Grand Ballroom A**
Multi-modality Imaging – To Enhance Therapy Guidance
Moderators: David Bluemke, MD, PhD, NIH
Aloha Meave, MD, Instituto Nacional de Cardiologia
Upon completion of this educational activity, the participant should be better able to:
- Describe the role of multi-detector CT in the assessment of coronary artery disease
 - Describe the role of PET for coronary artery disease assessment
 - Describe clinical scenarios for which MRI may complement echocardiographic assessment
- 3:30 pm** **CT: Current Role in Management of CAD**
Christian Loewe, MD, University of Vienna
- 3:50 pm** **To Set-up a Hybrid Imaging Lab: Motivation and Challenges**
Pamela Woodard, MD, Mallinckrodt Institute of Radiology
- 4:10 pm** **Echocardiographical Scenarios That Need Complementary Methods**
Katherine Wu, MD, Johns Hopkins Medicine
- 4:30 pm** **PET-MR: Potential Clinical and Research Applications**
Jean-Paul Vallee, MD, Hopitaux Universitaires de Geneve
- 4:50 pm** **Q and A/Discussion**

- 3:30 pm Case Review Session 4 - Yosemite A-B**
Cardiac Masses: Correlating Imaging with Pathology
 Moderators: Richard Coulden, MD, University of Alberta Hospitals
 Dipan Shah, MD, Methodist DeBakey Heart & Vascular Center
- Fibroelastoma of the Mitral Valve in a 10 Year Old Patient – Imaging, Therapy and Pathology**
 Christoph Preuss, MD, University Medical Center Goettingen
- Right Atrial Mass with Constrictive Pericarditis**
 Vinetta Sethi, MD, The Ottawa Hospital
- Primary Cardiac Lymphoma: Multi-modality Imaging for Diagnosis and Monitoring of Treatment Response**
 Prabhjot Nijjar, MD, University of Minnesota
- Cardiac MRI Evaluation of Malignant Melanoma**
 Yasmin Hamirani, MD, University of Virginia
- 3:30 pm Oral Abstract Session 5 – Imperial Ballroom A**
Cardiac Physiology and Metabolism
 Moderators: Rene Botnar, PhD, King's College London
 Frank Rademakers, MD, PhD, University Hospitals Leuven
- 3:30 pm Introductory Presentation**
 Frank Rademakers, MD, PhD, University Hospitals Leuven
- 3:38 pm O 25 Comprehensive Cardiac Magnetic Resonance Imaging and Spectroscopy Reveals a High Burden of Myocardial Disease in HIV Infection**
 Cameron Holloway, MBBS, St. Vincent's Hospital, Sydney
- 3:50 pm O 26 A Vasodilator Stress MRI Perfusion Study: Large HDL Particle Number is Independently Associated with Microvascular Function in Patients with LDL-C <100mg/dL**
 Akhil Narang, MD, University of Chicago
- 4:02 pm O 27 Myocardial Steatosis and Impaired Energetics are Independent Predictors of Regional Contractile Function in Patients with Severe Aortic Stenosis**
 Masliza Mahmood, MBChB, University of Oxford
- 4:14 pm O 28 Left Ventricular Torsional Hysteresis in Patients with Hypertension: A Global Parameter for Diastolic Function**
 Himanshu Gupta, MD, University of Alabama at Birmingham
- 4:26 pm O 29 Skeletal Muscle ATP Kinetics during Exercise in Patients with Systolic Heart Failure**
 Gurusher Panjra, MD, Johns Hopkins Medicine
- 4:38 pm O 30 The Effects of Excess Weight on Cardiac Strain and Steatosis in Adults and Children**
 Rajarshi Banerjee, MRCP, MPH, University of Oxford
- 4:50 pm Q and A/Discussion**
- 3:30 pm Oral Abstract Session 6 - Imperial Ballroom B**
Quantification in Primary and Secondary CMP
 Moderators: Daniela Foell, MD, University Hospital Freiburg
 Matthias Friedrich, MD, CMR Centre at the Montreal Heart Institute
- 3:30 pm Introductory Presentation**
 Matthias Friedrich, MD, CMR Centre at the Montreal Heart Institute
- 3:38 pm O 31 Prevalence of Increased Myocardial Extracellular Volume Fraction in Dilated Cardiomyopathy**
 Magnus Lundin, M.Sc. Engg, Karolinska Institutet
- 3:50 pm O 32 Role of T1 and T2-Mapping in Assessing the Myocardial Interstitium in Hypertrophic Cardiomyopathy: A Cardiovascular Magnetic Resonance Study**
 Tevfik Ismail, BSc(Hons), MB BS, MRCP, Royal Brompton Hospital
- 4:02 pm O 33 Incremental Predictive Value of Deep Crypts in the Basal Inferoseptum in the Setting of Hypertrophic Cardiomyopathy**
 Djeven Deva, MD, University of Toronto
- 4:14 pm O 34 Multiorgan ECV as Measured by EQ-MRI in Systemic Amyloidosis**
 Sanjay Banypersad, MD, The Heart Hospital
- 4:26 pm O 35 Cardiac Magnetic Resonance Circumferential Strain Predicts Myocardial Fibrosis in DMD-associated Cardiac Disease**
 Kan Hor, MD, Cincinnati Children's Hospital Medical Center
- 4:38 pm O 36 A New Variant of Apical Hypertrophic Cardiomyopathy? T Wave Inversion and Relative but not Absolute Apical Left Ventricular Hypertrophy**
 Andrew Flett, MBBS, BSc, The Heart Hospital
- 4:50 pm Q and A/Discussion**

5:00 PM – 6:30 PM Concurrent Sessions

5:00 pm Invited Lecture Session 4 - **Grand Ballroom A** CAD - Perfusion: the Macro - and Microvasculature

Moderators: Sven Plein, MD, PhD, University of Leeds
Orlando Simonetti, PhD, The Ohio State University

Upon completion of this educational activity, the participant should be better able to:

- Understand the role of CMR perfusion imaging as a tool for diagnosis and prognosis of CAD patients
- Discuss how CMR perfusion can be utilized in the assessment of microvascular disease
- Recognize the roles for measurements of myocardial perfusion, oxygenation, and metabolism

5:00 pm Overview: CMR vs. Other Perfusion Modalities

Sven Plein, MD, PhD, University of Leeds

5:20 pm CMR Perfusion for Prognosis

Rory Hachamovitch, MD, Cleveland Clinic

5:40 pm CMR Perfusion for Assessment of Microvascular Disease

Amedeo Chiribiri, MD, King's College London

6:00 pm Perfusion vs. Oxygenation vs. Metabolism - Competitive or Complimentary

Stefan Neubauer, MD, University of Oxford

6:20 pm Q and A/Discussion

5:00 pm Case Review Session 5 - **Yosemite A-B** Not Your Bread and Butter Cases

Moderators: Victor Ferrari, MD, University of Pennsylvania
Michael Steigner, MD, Brigham and Women's Hospital

Acute Myocardial Infarction in Churg Strauss Cardiomyopathy

Christopher Francois, MD, University of Wisconsin-Madison

A Case of Whipple's Pericarditis

Vinetta Sethi, MBBS, MD, The Ottawa Hospital

Cardiac MRI in Assessment of Mitral Para-Valvular Leaks

Chesnal Arepalli, MD, Emory University School of Medicine

Opposite Ends of the Spectrum in the Cardiomyopathy of Friedreich's Ataxia: Subtle and Overt Fibrosis Demonstrated by CMR

Aparna Deshpande, MRCP FRCR, Toronto General Hospital

Scleroderma Affecting the Heart: An ARVC Mimic

Vinetta Sethi, MBBS, MD, The Ottawa Hospital

Acute MI with a Small Pseudoaneurysm

Siddique Abbasi, MD, Brigham and Women's Hospital

5:00 pm Oral Abstract Session 7 - **Imperial Ballroom A** Imaging of Function in Congenital Heart Disease

Moderators: Matthias Gutberlet, MD, PhD, University Leipzig/Heart Center Leipzig
Andrew Powell, MD, Children's Hospital Boston

5:00 pm Introductory Presentation

Matthias Gutberlet, MD, PhD, University Leipzig/Heart Center Leipzig

5:08 pm O 37 Quantification of Aortic Valve Regurgitation by Phase-Contrast Magnetic Resonance in Patients with Bicuspid Aortic Valve: Where to Measure the Flow?

Stefano Muzzarelli, MD, University Hospital Lausanne

5:20 pm O 38 New Insights in the Fontan-circulation: 4-dimensional Respiratory- and ECG-triggered Phase Contrast Magnetic Resonance Imaging

Christopher Hart, MD, Universitaetslinik Kiel

5:32 pm O 39 Late Repair of Tetralogy of Fallot is Associated with Increased Aortic Stiffness: A Retrospective CMR Cohort Study

Jason Christensen, MD, University of Michigan

5:44 pm O 40 Tricuspid Annular Plane Systolic Excursion by Cardiac MRI Has Poor Correlation with RVEF in Pediatric Patients

Emem Usoro, Meharry Medical College

5:56 pm O 41 Evaluation of Atrial Volume and Function with Magnetic Resonance Imaging in Hypoplastic Left Heart

Chodchanok Vijarnsorn, MD, University of Alberta

6:08 pm O 42 Quantification of Left Ventricular Regional Myocardial Function Using MRI Feature Tracking in Healthy Children - A Dual-center Study

Joachim Eichhorn, MD, University Children's Hospital

6:20 pm Q and A/Discussion

5:00 pm Oral Abstract Session 8 - Imperial Ballroom B
Impact of Extracardiac Disease on Cardiac Structure and Function

Moderators: Amit Patel, MD, University of Chicago
 Gerald Pohost, MD, University of Southern California

5:00 pm Introductory Presentation

Gerald Pohost, MD, University of Southern California

5:08 pm O 43 RV Dysfunction by MRI Is Associated with Elevated Transpulmonary Gradient and Poor Prognosis in Patients with Sick Cell Associated Pulmonary Hypertension

Kim-Lien Nguyen, MD, NHLBI

5:20 pm O 44 Coronary Endothelial Function Is Directly Related to Extent of Weight Loss in Obese Patients

Allison Hays, MD, Johns Hopkins Medicine

5:32 pm O 45 Dobutamine Induced Changes in Aortic Stiffness: Influence of Obesity in Middle Aged and Elderly Individuals with Hypertension, Diabetes or Coronary Artery Disease

Sujethra Vasu, MD, Wake Forest University

5:44 pm O 46 Unfavorable Metabolic Changes are Accompanied by Impaired Myocardial Function Shortly After Chemotherapy

R. W. van der Meer, MD, Leiden University Medical Center

5:56 pm O 47 Myocardial Tissue Characterisation with Late Gadolinium Enhancement in Rheumatoid Arthritis, Systemic Lupus Erythematosus and Systemic Sclerosis

Ntobeko Ntusi, MBChB, University of Oxford

6:08 pm O 48 Detection and Potential Mechanisms of Subclinical Left Ventricular Dysfunction in Asymptomatic Young Adults with Type-2 Diabetes

Jamal Khan, MBChB, University of Leicester

6:20 pm Q and A/Discussion

6:30 pm – 7:30 pm Moderated Poster Session 1/Wine and Cheese Reception

Moderators: Scott Flamm, MD, Cleveland Clinic
 Warren Manning, MD, Beth Israel Deaconess Medical Center

6:37 pm M1 PET-MRI Tracking of Imaging-Visible Microencapsulated Stem Cells in Immunocompetent Rabbits

Yingli Fu, PhD, Johns Hopkins Medicine

6:44 pm M2 4D Flow MRI of the Aorta Becomes Practical: Performance and Observer Variability for a New Semi-Automated Workflow for 3D Visualization and Quantification of Aortic Hemodynamics

Susanne Schnell, PhD, Northwestern University

6:51 pm M3 Effect of Contrast Dose, Post-Contrast Acquisition Time, Myocardial Regionality, Cardiac Cycle and Gender on Dynamic-Equilibrium CMR Measurement of Myocardial Extracellular Volume

Christopher Miller, MBChB, University Hospital of South Manchester

6:58 pm M4 Relationship between Myocardial Scar and Coronary Artery Plaque in Diabetes Patients: From Preliminary Results of Assessment with Cardiac Computed Tomography Angiography and Magnetic Resonance Imaging in Patients with Type 2 Diabetes for Detection of Unrecognized Myocardial Scar in Subclinical Coronary Atherosclerosis (ACCREDIT) Study

Joon-Won Kang, MD, Asan Medical Center

7:05 pm M5 Coronary Artery Distensibility Assessed by Cardiovascular Magnetic Resonance Imaging in Patients with Type 2 Diabetes Mellitus and Healthy Controls

Sebastian Kelle, MD, PhD, German Heart Institute

7:12 pm M6 Diffuse Myocardial Fibrosis by Post-Contrast T1-Time Predicts Outcome in Heart Failure with Preserved Ejection Fraction

Julia Mascherbauer, MD, Medical University of Vienna

7:19 pm M7 Quantification of Aortic Pulse Wave Velocity in Preterm Infants using 4D Phase Contrast MRI

Kathryn Broadhouse, MSci, Imperial College

Saturday, February 2, 2013

6:45 am – 8:00 am **Continental Breakfast** **Grand Ballroom B**
/Posters/Exhibits

7:00 am – 8:00 am **Physics for Physicians 2** **Imperial Ballroom A**
Moderators: Sonia Nelles-Vallespin, PhD, NIH
Mark Griswold, PhD, Case Western
Research University

7:00 am **Hardware: RF Coils**
Mark Griswold, PhD, Case Western
Reserve University

7:15 am **Parallel Imaging**
Nicole Seiberlich, PhD, Case Western
Reserve University

7:30 am **Other Techniques**
Michael Lustig, PhD, University of Berkeley

7:45 am **Q and A/Discussion**

7:00 am – 8:00 am **Cardiology for** **Imperial Ballroom B**
Non-cardiologists 2
Moderators: Florian von Knobelsdorff, MD,
Charité Medical University
Mark Westwood, MD, The London Chest Hospital

7:00 am **The Heart as a Pump: Understand**
Ventricular Mechanics
Marcus Carlsson, MD, Lund University Hospital

7:20 am **Aortic Stenosis and Regurgitation: The**
Lesion and Resulting Problems
Florian von Knobelsdorff, MD, Charité
Medical University

7:40 am **Case Presentation: CMR Case of**
Combined Aortic Stenosis/Aortic
Regurgitation
Henning Steen, MD, Universitätsklinikum Heidelberg

7:50 am **Q and A/Discussion**

7:00 am - 8:00 am **Case Review Session 6 -** **Yosemite A-B**
Fascinating Vascular Disease Cases
Moderators: David Bluemke, MD, PhD, NIH
Uma Valeti, MD, University of Minnesota

Type A Aortic Dissection Masquerading as
a Right Atrial Mass
Lucien Abboud, MD, St. Francis Hospital

The Entrapped Popliteal Artery: Role of
MRI in Diagnosis
Gurpreet Gulati, MD, All India Institute of
Medical Sciences

Giant Bypass Aneurysm: One Cause of
Suspected Cardiac Mass

Christina Unterberg-Buchwald, MD, University
Clinic Goettingen

An Interesting Cause of Chronic Liver Failure
Juan Lopez-Mattei, MD, Methodist DeBakey Heart &
Vascular Center

Acute chest pain in a 50 year-old man
with Marfan's syndrome and prior aortic
root replacement
Stefan Zimmerman, MD, Johns Hopkins Medicine

Q and A/Discussion

8:00 am – 9:30 am Concurrent Sessions

8:00 am **Invited Lecture Session 5 – Grand Ballroom A**
NIHD: Inflammation and Myocardial
Involvement in Systemic Disorder – Offer
Our Technology to Other Specialties

Moderators: Peter Buser, MD, University Hospital Basel
Subha Raman, MD, The Ohio State University

Upon completion of this educational activity, the participant should be better able to:

- Gain an understanding of techniques for regional myocardial mechanics assessment in nonischemic cardiomyopathies
- Recognize CMR findings of various causes of left ventricular hypertrophy
- Explain the myocardial and vascular abnormalities in rheumatologic and vasculitic disorders

8:00 am **Functional CMR for the Assessment of**
Regional Myocardial Tissue Mechanics in
Non-ischemic Heart Disease
Michael Markl, PhD, Northwestern University

8:20 am **Left Ventricular Hypertrophy –**
Differentiation of the Underlying Cause –
Only Amyloidosis?
Alicia Maciera, MD, ERESA Grupo Medico

8:40 am **Rheumatologic Disorders – Myocardial**
Injury in Preserved Ejection Fraction
Amit Patel, MD, University of Chicago

9:00 am **Large Vessel Vasculitis – Lumen and Vessel Wall**
Sophie Mavrogeni, MD, RCI Hellas SA

9:20 am **Q and A/Discussion**

- 8:00 am Case Review Session 7 - Yosemite A-B**
Best Cases from the SCMR Website
 Moderators: Chiara Bucciarelli Ducci, MD, Bristol Heart Institute
 Robert Rollings, MD, Savannah Cardiology
- Case 1 - Post Pericardiectomy for Constriction – Late Complication**
 Robert Huggett, PhD, Russells Hall Hospital
- Case 2 - A Severe Ductal Aneurysm in a Neonate**
 Jonathan Windram, BSc(Hons), MBChB, The Hospital for Sick Children
- Case 3 - A Pseudo-Alfieri Aortic Valve Masquerading as Severe Aortic Stenosis**
 Kapildeo Lotun, MD, University of Arizona
- Case 4 - Echo and CMR in Acromegalic Cardiomyopathy**
 Raymond Chan, MD, Sir Mortimer B. Davis Jewish General Hospital
- Case 5 - Branch Pulmonary Artery Flow Curves in Repaired Tetralogy of Fallot**
 Sylvia Chen, PhD, Flinders Medical Centre
- 8:00 am Oral Abstract Session 9 - Imperial Ballroom A**
Automation, Enhanced Efficiency and Robustness of CMR
 Moderators: Scott Flamm, MD, MBA, Cleveland Clinic
 Ralf Wassmuth, MD, Charité Medical University and HELIOS
- 8:00 am Introductory Presentation**
 Scott Flamm, MD, MBA, Cleveland Clinic
- 8:08 am O 49 Quantification of Myocardial Scar Assessed by Late Gadolinium Enhancement CMR in the Multi-Ethnic Study of Atherosclerosis: Comparisons of 7 Different Methods**
 Patricia Rizzi, MD, John Hopkins University
- 8:20 am O 50 Improved Left Atrial Imaging in Atrial Fibrillation Patients Using Novel ECG-gated vs. Conventional Non-gated Cardiac MRA**
 Douglas Sheffer, MD, University of Utah
- 8:32 am O 51 Left Ventricular Function, Aortic Velocity, and Late Gadolinium Enhancement Assessed by Real-time and Single Shot CMR is Comparable to Breath-held Segmented Imaging: A Prospective Study**
 Ashish Aneja, MD, The Ohio State University
- 8:44 am O 52 Robust and Fast SSFP for the Evaluation of LV Function at 3T**
 Yin Wu, PhD, Shenzhen Institutes of Advanced Technology
- 8:56 am O 53 Cardiac Magnetic Resonance Perfusion Imaging and the Effects of Single Intravenous Cannulation with the Octopus Bionector**
 Heiko Kindler, MRCP, Royal Brompton Hospital
- 9:08 am O 54 Fully Automatic Planning of the Long-axis Views of the Heart**
 Carmel Hayes, PhD, Siemens AG
- 9:20 am Q and A/Discussion**
- 8:00 am Oral Abstract Session 10 - Imperial Ballroom B**
Vascular MRI: Flow, Angiography, and Tissue Perfusion
 Moderators: Jens Bremerich, MD, University Hospital Basel
 Florian von Knobelsdorff, MD, Charité Medical University
- 8:00 am Introductory Presentation**
 Jens Bremerich, MD, University Hospital Basel
- 8:08 am O 55 High Acceleration Quiescent-interval Single Shot Magnetic Resonance Angiography at 3T in Patients with Peripheral Artery Disease**
 Parag Amin, MD, Northwestern Memorial Hospital
- 8:20 am O 56 Using MRI Derived Patient-Specific Flow Models and Flow Imaging for Flow Diverting Stent Rehearsal**
 Gabriel Acevedo-Bolton, PhD, University of California-San Francisco
- 8:32 am O 57 Body-coil Non-enhanced MR Angiography using Highly Undersampled Radial QISS**
 Robert Edelman, MD, NorthShore University Health System
- 8:44 am O 58 MR-based Calf Muscle Perfusion Index Correlates with Treadmill Exercise Test Parameters in Patients with Peripheral Arterial Disease**
 Stephanie Clement-Guinaudeau, MD, Emory University
- 8:56 am O 59 Difference between Cerebral Embolic Events following Transcatheter Aortic Valve Implantation (TAVI) and Surgical Aortic Valve Replacement (SAVR): A Diffusion Weighted MRI Study**
 Akhlaque Uddin, MBChB, Multidisciplinary Cardiovascular Research Centre (MCRC) & Leeds Institute of Genetics, Health and Therapeutics

9:08 am O 60 Simultaneous Static and Time-resolved Non-enhanced Peripheral MR Angiography

Ioannis Koktzoglou, PhD, NorthShore University Health System

9:20 am Q and A/Discussion

9:30 am – 10:00 am Morning Break /Posters/Exhibits **Grand Ballroom B**

10:00 am – 11:30 am Concurrent Sessions

10:00 am Invited Lecture Session 6 – Grand Ballroom A Cardiac T1 Mapping: Methods and Applications

Moderators: Peter Kellman, PhD, NHLBI
Daniel Messroghli, MD, Deutsches Herzzentrum Berlin

Upon completion of this educational activity, the participant should be better able to:

- Explain the differences between T1-weighted imaging and T1 mapping
- Describe how extracellular volume (ECV) is related to myocardial fibrosis, and how ECV can be assessed
- Name at least two major applications for T1 mapping/ ECV mapping

10:00 am T1 Mapping in the Heart

Peter Kellman, PhD, NHLBI

10:20 am Post-processing: From T1 to ECV

Martin Ugander, MD, PhD, Karolinska Institute

10:40 am Clinical Applications of Native T1 Mapping

Erica Dall'Armellina, MD, University of Oxford

11:00 am Clinical Applications of Contrast-enhanced T1/ECV Mapping

Andrew Flett, MBBS, BSc, The Heart Hospital London

11:20 am Q and A/Discussion

10:00 am Invited Lecture Session 7 – Yosemite A-B Advanced Acceleration Techniques: Faster IS Better

Moderators: Frederick Epstein, PhD, University of Virginia
Orlando Simonetti, PhD, The Ohio State University

Upon completion of this educational activity, the participant should be better able to:

- Recognize and recall four technologies used to accelerate CMR data acquisition
- Summarize the tradeoffs associated with different acceleration techniques
- Understand the future potential for emerging acceleration techniques

10:00 am Parallel Imaging: Have We Reached the Limits?

Mark Griswold, PhD, Case Western Research University

10:20 am Using Spatio-temporal Correlation to Accelerate CMR

Sebastian Kozerke, PhD, ETH Zurich

10:40 am Radial Sampling: Trajectory to the Future?

Sonia Nielles-Vallespin, PhD, NIH

11:00 am Compressed Sensing: What Can It Do for CMR?

Michael Lustig, PhD, University of Berkeley

11:20 am Q and A/Discussion

10:00 am Invited Lecture Session 8 – Imperial Ballroom B CMR Useful to Differentiate the Acute Coronary Syndrome

Moderators: Holger Thiele, MD, University of Leipzig
Joao Lima, MD, Johns Hopkins University

Upon completion of this educational activity, the participant should be better able to:

- Recognize the different CMR patterns in acute coronary syndromes
- Recognize the prognostic value of microvascular obstruction, infarct size and intramyocardial hemorrhage
- Differentiate CMR acute coronary syndromes patterns from myocarditis, Takotsubo-cardiomyopathy and other acute coronary syndromes with normal coronary arteries
- Utilize CMR for ruling out acute coronary syndromes in the emergency department

10:00 am CMR Patterns and Prognosticators in STEMI, NSTEMI and Unstable Angina

Holger Thiele, MD, University of Leipzig

10:20 am CMR to Guide Acute Chest Pain in the Emergency Department

Ricardo Cury, MD, Baptist Cardiac and Vascular Institute

10:40 am CMR for Differential Diagnosis - Myocarditis and Other Entities

Jeanette Schulz-Menger, MD, Charité Medical University and HELIOS

11:00 am Myocardial at Risk - Lessons from Cardiac MRI

Hakan Arheden, MD, PhD, Lund University

11:20 am Q and A/Discussion

10:00 am Oral Abstract Session 11 - Imperial Ballroom A Basic Translational - Pre-clinical: From PET-MRI to Nanoparticles

Moderators: David Sosnovik, MD, Massachusetts General Hospital

Joachim Lotz, MD, University Medical Center Göttingen

10:00 am Introductory Presentation

David Sosnovik, MD, Massachusetts General Hospital

10:08 am O 61 Feasibility of MRI Attenuation Correction in Cardiac FDG-PET

Jeffrey Lau, MD, PhD, Washington University in St. Louis

- 10:20 am O 62 Chronic Obstructive Pulmonary Disease (COPD) is Associated with Pulmonary Artery Stiffness – The MESA COPD Study**
Chia-Ying Liu, PhD, Johns Hopkins University
- 10:32 am O 63 Efficient 3D Late Gadolinium Enhancement Imaging using the CLAWS Respiratory Motion Control Algorithm**
Jennifer Keegan, PhD, Royal Brompton Hospital
- 10:44 am O 64 Retrospectively Gated Intra-cardiac 4D Flow CMR using Spiral K-Space Trajectories**
Sven Petersson, M.Sc., Linköping University
- 10:56 am O 65 Vortex Formation Ratio in Heart Failure Compared to Healthy Volunteers at Rest and During Exercise**
Mikael Kanski, MD, Lund University
- 11:08 am O 66 High-Gd-Payload P22 Protein Cage Nanoparticles for Imaging Vascular Inflammation**
Hisanori Kosuge, MD, PhD, Stanford University
- 11:20 am Q and A/Discussion**
- 11:30 am – 12:30 pm Moderated Poster Session 2/Lunch/Exhibits**
- 11:30 am Moderated Poster Session 2**
Moderators: Peter Buser, MD, University Hospital Basel
Gerald Pohost, MD, University of Southern California
- 11:37 am M 8 4D Flow MRI Demonstrates Altered Aortic Hemodynamics in Patients with Right- Left and Right-Non-coronary Bicuspid Aortic Valve Fusion Patterns**
Riti Mahadevia, BA, Northwestern University
- 11:44 am M 9 Potency of Integrating Three-dimensional Cardiac Magnetic Resonance Imaging into Electroanatomic Mapping to Perform Catheter Ablation in Pediatrics**
Satoshi Kunitomo, MD, Nihon University School of Medicine
- 11:51 am M 10 MR-Guided Cardiac Radiofrequency Ablation with Catheter-Tracked Local MR Lesion Monitoring**
Tobias Schaeffter, PhD, King's College London
- 11:58 am M 11 Assessment of Cardiac Dyssynchrony: A Comparison of Velocity Encoded Imaging and Feature Tracking Analysis**
Daniel Kuetting, University of Bonn

- 12:05 pm M 12 Detection of Myocardial Inflammation in Chagas' Disease by Cardiac Magnetic Resonance**
Jorge Torreão, MD, University of São Paulo Medical School
- 12:12 pm M 13 Spatial Heterogeneity of Intracardiac 4D Relative Pressure Fields during Diastole**
Jonatan Eriksson, MSc, Linköping University
- 12:19 pm M 14 Evolution of Aortic Wall Thickness: Long-term Follow Up from the Multi-Ethnic Study of Atherosclerosis (MESA)**
Chia-Ying Liu, PhD, Johns Hopkins University

12:30 pm – 2:00 pm Concurrent Sessions

- 12:30 pm Invited Lecture Session 9 – Grand Ballroom A CMR in Adults with Congenital Cardiac Disease**
Moderators: Reza Razavi, MD, King's College London
Craig Broberg, MD, Oregon Health & Sciences University
Upon completion of this educational activity, the participant should be better able to:
- Understand the major roles of cardiac MR in congenital heart patients, including within specific defect categories
 - Describe new CMR techniques being developed that have application in congenital heart disease
 - List several long-term complications faced by adult survivors with congenital heart disease that can be investigated with CMR

- 12:30 pm Aortic Coarctation in the Adult – New Light on an Old Problem**
Gerald Greil, MD, King's College London
- 12:45 pm Fibrosis and Scar Imaging in ACCD - Important or Innocent?**
Sonya Babu-Narayan, MB, PhD, Royal Brompton Hospital
- 1:00 pm Cutting Edge CMR in Adult Fontan Patients - New Insights, New Tools**
Andrew Taylor, MD, UCL Institute of Cardiovascular Science
- 1:15 pm Risk Stratification in Aortic Root Dilatation - Beyond Diameters?**
Albert de Roos, MD, PhD, Leiden University Medical Center
- 1:30 pm The Fate of the Systemic RV After Atrial Switch**
Tal Geva, MD, Children's Hospital Boston
- 1:45 pm Q and A/Discussion**

12:30 pm Case Review Session 8 - When **Yosemite A-B**

CMR Complements Other Modalities

Moderators: Marcus Chen, MD, NIH
Pamela Woodard, MD, Mallinckrodt Institute of Radiology

CMR Complements Structural Imaging for a Functional Assessment in ACS

Elisa McAlindon, BMBS(Hons), MRCP, Bristol Heart Hospital

Chronic Intramyocardial Hematoma from a Contained Post-traumatic Myocardial Rupture

Gregory King, MD, Sunnybrook Health Sciences Centre

Cardiac Magnetic Resonance Findings of an Actively Rupturing Myocardial Pseudoaneurysm

Michael Hall, MD, Wake Forest School of Medicine

Successful Resuscitation in a Patient with Primary Cardiac Mass

Christina Unterberg-Buchwald, MD, University Clinic

Implications of CMR Identification of Anomalous Papillary Muscle Insertion into the Mitral Valve in Hypertrophic Cardiomyopathy

Ethan Rowin, MD, Tufts Medical Center

A Huge Right Ventricle: Role of Cardiac Magnetic Resonance (CMR) in the Diagnosis

Gurpreet Gulati, MD, All India Institute of Medical Sciences

Left Ventricular Accessory Chamber: A Difficult Diagnosis in a Newborn with Heart Failure. Evaluation by CMR and Gated-cardiac CT

Martha Carrillo, MD, Instituto Nacional de Cardiologia
Ignacio Chavez

12:30 pm Oral Abstract Session 12 - **Imperial Ballroom A**

Moderators: Victor Ferrari, MD, University of Pennsylvania
Albert de Roos, MD, PhD, Leiden University Medical Center

12:30 pm O 67 Late Gadolinium Enhancement Cardiovascular Magnetic Resonance for Sudden Cardiac Death Risk Stratification in Hypertrophic Cardiomyopathy

Tevfik Ismail, BSc(Hons), MB BS, MRCP, Royal Brompton Hospital

12:45 pm O 68 Patients with Dilated Cardiomyopathy (DCM) Have Appropriate Myocardial Oxygenation Response to Vasodilator Stress

Sairia Dass, MBBS, The John Radcliffe Hospital

1:00 pm O 69 Cusp Fusion Pattern in Bicuspid Aortic Valve Disease Predicts Severity of Aortic Flow Abnormalities

Malenka Bissell, MD, University of Oxford

1:15 pm O 70 New 'Gold Standard' for Assessing Myocardial Oedema in STEMI?

Elisa McAlindon, BMBS(Hons), MRCP, Bristol Heart Hospital

1:30 pm O 71 Native T1 Lowering in Iron Overload and Anderson Fabry Disease; A Novel and Early Marker of Disease

Daniel Sado, BSc, The Heart Hospital

1:45 pm O 72 Diffuse Myocardial Fibrosis in Pediatric Hypertrophic Cardiomyopathy

Tarique Hussain, MBBChir, Birmingham Children's Hospital

12:30 pm Oral Abstract Session 13 - **Imperial Ballroom B**

Moderators: Ingo Eitel, MD, University of Leipzig
Thomas Elgeti, MD, Charité Medical University

12:30 pm Introductory Presentation

Ingo Eitel, MD, University of Leipzig

12:38 pm O 73 A Simple Visual Algorithm Incorporating the Components of a Routine CMR Study Improves the Determination of Infarct Age Compared with T2-CMR Alone

Martijn Smulders, MD, Maastricht University Medical Center

12:50 pm O 74 Microvascular Obstruction is Associated with Greater Infarct Heterogeneity

Idan Roifman, MD, Sunnybrook Health Sciences Centre

1:02 pm O 75 Prognostic Utility of Late Gadolinium Enhancement Cardiac Magnetic Resonance Imaging in Coronary Artery Disease: A Meta-Analysis

Raymond Chan, MD, Beth Israel Deaconess Medical Center

1:14 pm O 76 Relationship between Obesity and Unrecognized Myocardial Infarction: A EuroCMR Multi-Center Study

Christoph Jensen, MD, Duke University

1:26 pm O 77 Larger Infarct Size Associated with Dysglycemia at the Time of ST-elevation Myocardial Infarction Is Related to Later Presentation

Naveed Razvi, MBBS BSc, University of Leicester

1:38 pm **O 78 Left Atrial Volume during the Early Convalescent Phase of Acute MI Is Strongly Related to Expansion of Myocardial Extracellular Matrix during Infarct Healing and Ventricular Remodeling**

Siddique Abbasi, MD, Brigham and Women's Hospital

1:50 pm **Q and A/Discussion**

2:00 pm – 2:30 pm **Afternoon Break/ Posters/Exhibits** **Grand Ballroom B**

2:30 pm – 4:00 pm **Concurrent Sessions**

2:30 pm **Invited Lecture Session 10 – Grand Ballroom A Advanced Pediatric Cardiac CMR in 2013 – Pushing the Envelope**

Moderators: Lars Grosse-Wortmann, MD, Hospital for Sick Children

Willem Helbing, MD, Erasmus Medical Center

Upon completion of this educational activity, the participant should be better able to:

- Recognize advantages and disadvantages of new functional CMR developments in pediatric populations
- Discuss the technical requirements for new functional CMR applications in pediatric populations

2:30 pm **Fetomaternal Circulation by CMR**

Ulrike Wedegärtner, MBBS, University Medical Center Hamburg-Eppendorf

2:45 pm **Functional CMR in the Newborn Infant**

Alan Groves, MD, Imperial College London

3:00 pm **4D Flow – What Is It Good for in Congenital Heart Disease**

Tino Ebbers, PhD, Linköping University

3:15 pm **Ventricular Interaction and Regional Wall Motion Assessment by CMR**

Mark Fogel, MD, Children's Hospital of Philadelphia

3:30 pm **First-pass Pulmonary Perfusion in Pediatric Cardiovascular Disease**

Rajesh Krishnamurthy, MD, Texas Children's Hospital

3:45 pm **Q and A/Discussion**

2:30 pm **Case Review Session 9 - Things That Are Bright That Are Not MI** **Yosemite A-B**

Moderators: Raymond Kim, MD, Duke Medical Center
Amit Patel, MD, University of Chicago

Late Gadolinium Enhancement in Idiopathic Pulmonary Hypertension: Resolution of the Enhancement after Lung Transplant

Dilachew Adebo, MD, Children's Hospital of Philadelphia

Unusual CMR Appearance of Cardiac Sarcoidosis Mimicking ARVD

Lindsay Busby, MPH, New York Medical College

The Utility of Cardiovascular Magnetic Resonance in the Diagnosis of Danon Cardiomyopathy

Ethan Rowin, MD, Tufts Medical Center

Left Ventricular Hypertrophy and Apical Infarction in a Patient with Longstanding Hypertension

Shahryar Saba, MD, NIH

Utility of Extra-Cardiac Findings for Explaining the Specific Etiology of Late Gadolinium Enhancement: A Long Tortuous Road to Diagnosing Cardiac Sarcoidosis

Gillian Murtagh, MD

Cardiomyopathy and Late Gadolinium Enhancement in a Manifesting Carrier of Becker's Muscular Dystrophy: Should All Carriers of the Dystrophin Gene Mutation be Screened for Cardiomyopathy?

Karima Addetia, MD

2:30 pm **Oral Abstract Session 14 - Imperial Ballroom A Basic Translational - Post-processing: Function, Perfusion, Hemodynamics and Angiogenesis**

Moderators: Frederick Epstein, PhD, University of Virginia
Erik Schelbert, MD, University of Pittsburgh

2:30 pm **Introductory Presentation**

Frederick Epstein, PhD, University of Virginia

2:38 pm **O 79 From Unicuspid to Quadricuspid: The Impact of Aortic Valve Morphology on 3D Hemodynamics**

Pegah Entezari, MD, Northwestern University

2:50 pm **O 80 Pressure Overloaded Right Ventricles: Importance of Trabeculae in Evaluation of RV Function by CMR**

Mieke Driessen, MD, University Medical Center Utrecht

3:02 pm **O 81 Improving the Accuracy of Multi Breath-hold Diffusion Tensor MRI Tractography of the Heart Using Dynamic Motion Correction**

Choukri Mekkaoui, PhD, Harvard Medical School

3:14 pm **O 82 Diastolic Function from Tagged MRI and Myocardial Fibrosis: The Multi-Ethnic Study of Atherosclerosis (MESA)**

Bharath Ambale Venkatesh, PhD, Johns Hopkins University

3:26 pm **O 83 Quantitative Molecular Imaging of Angiogenesis-targeted Fluorinated Nanoparticles: New Approaches for B1-Mapping Compensation for 19F-MRI**

Matthew Goette, MS, Washington University in St. Louis

3:38 pm **O 84 The Relationship Between Spatial Resolution Levels and Quantitative Myocardial Perfusion**

Niloufar Zarinabad, PhD, King's College London

3:50 pm **Q and A/Discussion**

2:30 pm **Oral Abstract Session 15 - Imperial Ballroom B Procedure-planning, Monitoring and Outcome in Electrophysiology**

Moderators: Gerald Pohost, MD, University of Southern California

Holger Thiele, MD, PhD, Lund University

2:30 pm **Introductory Presentation**

Holger Thiele, MD, PhD, Lund University

2:38 pm **O 85 Multiparametric CMR Assessment of RV Apical versus Septal Pacing Study (MAPS) – Preliminary Acute Hemodynamic Findings**

Mark Ainslie, MBChB (hons) Bsc (hons), University of South Manchester

2:50 pm **O 86 Impact of Cardiac Magnetic Resonance (CMR) on Utilization of Implantable-Cardioverter-Defibrillators (ICD) for Primary Prophylaxis of Sudden Cardiac Death**

Andrew Ertel, MD, University of Illinois at Chicago

3:02 pm **O 87 Exploring Intrinsic MR Signal Relaxation in Acute RF Ablation Lesions Using T2 Mapping and IR-SSFP CINE Imaging**

Venkat Ramanan, MBBS, M.Tech, Sunnybrook Research Institute

3:14 pm **O 88 Voltage-based Electroanatomic Mapping System for MR-guided Cardiac Electrophysiology: Preliminary Swine Validations**

Zion Tse, PhD, University of Georgia

3:26 pm **O 89 Dual-IR Late Gadolinium Enhancement Achieves Better Blood Suppression than Traditional IR in a Swine Model of Atrial Radiofrequency Ablation Scar**

Sarah Peel, PhD, King's College London

3:38 pm **O 90 DE-MRI Allows Comparison of Lesion Formation after Pulmonary Vein Isolation with Different Ablation Catheters in Patients with Paroxysmal Atrial Fibrillation**

Christian Mahnkopf, MD, University of Utah

3:50 pm **Q and A/Discussion**

4:00 pm – 5:30 pm **Concurrent Sessions**

4:00 pm **Invited Lecture Session 11 – Grand Ballroom A High Throughput/CMR in Clinical Practice-Impact of Protocols**

Moderators: Edward Martin, MD, Oklahoma Heart Institute
Joseph Selvanayagam, MD, Flinders Medical Center

Upon completion of this educational activity, the participant should be better able to:

- Recognize the 'tricks and tips' to scan very sick patients
- Discuss the usefulness and limitations of high throughput techniques
- Explain the changes in practice after the 2008 guidelines

4:00 pm **The Usefulness of Disease Specific Protocols**

Scott Flamm, MD, MBA, Cleveland Clinic

4:20 pm **Changes in Practice after 2008 Guidelines**

Eike Nagel, MD, PhD, King's College London

4:40 pm **Optimizing CMR Studies in Very Sick Patients**

Victor Ferrari, MD, University of Pennsylvania

5:00 pm **What are the New High Throughput Techniques We Can Use Clinically and Their Limitations**

Matthias Stuber, MD, Lausanne University

5:20 pm **Q and A/Discussion**

4:00 pm **Invited Lecture Session 12 – Yosemite A-B Wide Spectrum of Flow-Assessment Beyond Routine: From Computational Modeling to 4D**

Moderators: Anthony Faranesh, PhD, NHLBI

Florian von Knobelsdorff, MD, Charité Medical University

Upon completion of this educational activity, the participant should be better able to:

- Recognize the interaction of cardiac function and blood flow
- Explain the technique, application, potential and limitation of 2D- and 4D-phase contrast flow measurements
- Comprehend the principle and potential of combining conventional in-vivo MR imaging with computational fluid dynamics for improved personalized treatment strategies

4:00 pm **Introduction into Cardiac Fluid Mechanics**
Partho Sengupta, MD, Zena and Michael A. Wiener
Cardiovascular Institute

4:20 pm **2D Phase Contrast MRI: State-of-the-Art and Emerging Applications**
Kevin Johnson, PhD, University of Wisconsin - Madison

4:40 pm **4D-PC-MRI for Cardiovascular Flow: Applications, Novel Results and Future Perspectives**
Michael Hope, MD, University of California - San Francisco

5:00 pm **Combining Computational Fluid Dynamics and MRI: New Strategy to Understand Cardiovascular Diseases and Treatment Planning?**
Charles Taylor, PhD, HeartFlow

5:20 pm **Q and A/Discussion**

4:56 pm **O 95 The Detection of Left Ventricular Scar by Delayed Enhancement-CMR in Non-ischemic Cardiomyopathy Is a Stronger Predictor of Cardiovascular Events than Left Ventricular Ejection Fraction**
Carlos Orrego, MD, Weill Cornell Medical College

5:08 pm **O 96 European Cardiovascular Magnetic Resonance (EuroCMR) Registry – Multi National Results from 57 Centers in 15 Countries**
Anja Wagner, MD, Comprehensive Cardiology

5:20 pm **Q and A/Discussion**

4:00 pm **Oral Abstract Session 17 - Imperial Ballroom B**
Imaging of Structure in Congenital Heart Disease
Moderators: Tal Geva, MD, Children's Hospital Boston
Andrew Crean, MD, Toronto General Hospital

4:00 pm **Oral Abstract Session 16 - Imperial Ballroom A**
Risk Stratification in Ischemic and Non-ischemic Cardiomyopathies: From Flow-reserve to Contrast-enhancement
Moderators: Raymond Kwong, MD, MPH, Brigham and Women's Hospital
Carlos Rochitte, MD, Heart Institute - InCor

4:00 pm **Introductory Presentation**
Raymond Kwong, MD, MPH, Brigham and Women's Hospital

4:08 pm **O 91 Impaired Coronary Flow Reserve Determined by MR Measurement of Coronary Sinus Flow Predicts Adverse Outcome in Patients with Known or Suspected Coronary Artery Disease**
Masaki Ishida, MD, PhD, Mie University

4:20 pm **O 92 Interstitial Expansion in Pressure Overload Left Ventricular Hypertrophy**
Thomas Treibel, MBBS, University College London

4:32 pm **O 93 Impact of CMR Parameters on Clinical Outcome after STEMI: Data from a Large Multi-Center Study**
Suzanne de Waha, MD, University of Leipzig

4:44 pm **O 94 The Breast Cancer, Early Disease: Toxicity from Therapy with Epirubicin Regimens – Cardiac Assessment and Risk Evaluation (BETTER-CARE) Study: CMR with Early Gadolinium Relative Enhancement, but Not High-Sensitivity Troponin T, Predicts the Risk of Chronic Anthracycline Cardiotoxicity**
Paul Kotwinski, MD, Royal Brompton Hospital

4:00 pm **Introductory Presentation**
Tal Geva, MD, Children's Hospital Boston

4:08 pm **O 97 Clinical Significance of Late Gadolinium Enhancement in Pediatric Patients with Hypertrophic Cardiomyopathy**
Brandon Smith, MD, University of Michigan

4:20 pm **O 98 Clinical Validation of Free Breathing Respiratory Triggered Retrospectively Cardiac Gated Cine Steady-state Free Precession (RT-SSFP) Imaging in Sedated Children**
Rajesh Krishnamurthy, MD, Texas Children's Hospital

4:32 pm **O 99 Myocardial Fibrosis and Ventricular Strain Indices in Post-Fontan Single Ventricle Patients: Cardiac MR Assessment and Prognostic Significance**
Sanmit Basu, MD, MS, St. Louis Children's Hospital

4:44 pm **O100 Right Ventricle Anatomy Can Predict New Onset Ventricular Tachycardia in Patients with Repaired Tetralogy of Fallot**
Beatrice Bonello, MD, Royal Brompton Hospital

4:56 pm **O101 Aortic Root and Ascending Aortic Dilatation in Patients with Repaired Tetralogy of Fallot. Determinants, Rates of Progression, Impacts on Outcomes and Relations to Branch Pulmonary Artery Stenosis**
Beatrice Bonello, MD, Royal Brompton Hospital

5:08 pm **0102 Comparative Assessment of Pediatric Right Ventricular Volumes and Function by MRI: Right Horizontal Long Axis versus Short Axis**

Brian Soriano, MD, Seattle Children's Hospital

5:20 pm **Q and A/Discussion**

5:30 pm – 6:00 pm **CMR Technology Updates** **Grand Ballroom A**

6:00 pm – 6:30 pm **Award Presentations** **Grand Ballroom A**

6:30 pm – 8:00 pm **Award Reception** **Golden Gate Room**

Sunday, February 3, 2013

6:45 am – 8:00 am **Continental Breakfast**

7:00 am – 8:00 am **Physics for Physicians 3** **Imperial Ballroom A**

Moderators: Sonia Nielles-Vallespin, PhD, NIH
Reza Nezafat, PhD, Beth Israel Deaconess Medical Center

7:00 am **Hardware: Physiological Monitoring (ECG, Respiratory Belts, Acoustic Systems, Ultrasound, Etc.)**

Thoralf Niendorf, PhD, Max-Delbrueck Center for Molecular Medicine

7:15 am **Cardiac Motion**

Orlando Simonetti, PhD, The Ohio State University

7:30 am **Respiratory Motion**

Jennifer Keegan, PhD, Royal Brompton Hospital

7:45 am **Q and A/Discussion**

7:00 AM – 8:00 AM **Cardiology for Non-cardiologists 3** **Imperial Ballroom B**

Moderators: Karen Ordovas, MD, University of California - San Francisco
Joseph Selvanayagam, MBBS, DPhil, Flinders Medical Centre

7:00 am **Cardiomyopathies: Classification and Clinical Profiles**

Steffen Petersen, MD, DPhil, Barts and The London

7:20 am **Heart Rhythm Disorders: Atrial Fibrillation and Ventricular Ectopia**

Ingo Eitel, MD, University of Leipzig

7:40 am **Case Presentation: CMR Assessment in Non-ischemic Cardiomyopathy**

Karen Ordovas, MD, University of California-San Francisco

7:50 am **Q and A/Discussion**

8:00 AM – 9:30 AM **Concurrent Sessions**

8:00 am **Invited Lecture Session 13 – Grand Ballroom A**
Post-processing Methods: Pro and Con for Quantification

Moderators: Hakan Arheden, MD, PhD, Lund University
Leon Axel, MD, PhD, NYU Langone Medical Center

Upon completion of this educational activity, the participant should be better able to:

- Understand the clinical impact of CMR quantification
- Explain the technical aspects of quantitative cardiac function assessment with CMR
- Explain the anatomic and physiologic aspects of quantitative cardiac function assessment with CMR
- Describe the technical aspects of quantitative analysis of early and late contrast enhancement in CMR

8:00 am **Do We Really Need Quantification in CMR?**

Matthias Friedrich, MD, CMR Centre at the Montreal Heart Institute

8:20 am **CMR Post-processing Techniques for Assessment of Ventricular Function. State of the Art in Automated Techniques for Research and Clinical Application**

Rob van der Geest, PhD, Leiden University Medical Center

8:40 am **Automated Processing of Myocardial Perfusion and Late Enhancement MR**

Hsu Li-Yueh, PhD, NIH

9:00 am **CMR Derived Three Dimensional Modeling of Cardiac Anatomy and Function in Normal Subjects and Cardiac Pathologies**

Alistair Young, PhD, University of Auckland

9:20 am **Q and A/Discussion**

8:00 am **Invited Lecture Session 14 – Imperial Ballroom A**
Emerging Technology CMR and Beyond

Moderators: Daniel Ennis, PhD, University of California-Los Angeles

Harald Quick, PhD, Institute of Medical Physics

Upon completion of this educational activity, the participant should be better able to:

- Recognize and recall four emerging CMR technologies
- Summarize the rationale and potential applications for each of them
- Critique their advantages and disadvantages

8:00 am **Multi-coil RF Transmit Systems**

Lukas Winter, M.Eng., Dpl.-Ing, Max-Delbrueck Center for Molecular Medicine

8:20 am **Interventional MRI: Journey to the Clinic**

Anthony Faranesh, PhD, NHLBI

- 8:40 am Compressed Sensing in the Clinic**
Reza Nezafat, PhD, Beth Israel Deaconess Medical Center
- 9:00 am Diffusion Imaging in the Heart**
Pierre Croisille, MD, PhD, Université J. Monnet
- 9:20 am Q and A/Discussion**
- 8:00 am Case Review Session 10 - Congenital Yosemite A-B**
Moderators: Sohrab Fratz, MD, PhD, Deutsches Herzzentrum München
Andrew Taylor, MD, UCL Institute of Cardiovascular Science
- Unexpected CMR Finding of Dual Sources of Pulmonary Blood Flow After Tetralogy of Fallot Repair: Implications for Management**
Rukmini Komarlu, MD, Boston Children's Hospital
- A Unique Case of Cardiac Herniation with Complex Cardiac Anatomy and Physiology - CMR to the Rescue [An Example of Complex Conditions Seen in a Developing Country]**
Mahesh Kappanayil, MD, Amrita Institute of Medical Sciences and Research Centre
- Why So Blue?**
Vikram Raju, Toronto General Hospital
- Comprehensive Evaluation of a Patient with Kawasaki Disease and Giant ICoronary Aneurysms with Cardiac Magnetic Resonance**
Milan Prsa, MD, The Hospital for Sick Children
- Asymptomatic Isolated Hypoplastic Left Ventricular Apex Syndrome**
Thomas Treibel, MBBS, University College London
- Large Hepatic Vein to Pulmonary Vein Connection as Source of Desaturation In a Complex Fontan Patient Shown by Cardiac MRI**
Shafkat Anwar, MD, Children's Hospital of Philadelphia
- Does Abnormal Systemic Venous Drainage Help Compensate for Severe Heart Failure in the Presence of a Vein of Galen Malformation?**
Adrian Dyer, MD, University of Texas Southwestern Medical Center
- Intracardiac Tumor Presenting as Complete Atrioventricular Block in an Asymptomatic Child**
Shaine Morris, MD, Texas Children's Hospital

- 8:00 am Oral Abstract Session 18 - Imperial Ballroom B**
Ischemia and Viability: Ischemic Burden, Reperfusion Injury, Fractional Flow Reserve, and Manganese Enhanced Stem Cell Imaging
Moderators: Anthony Aletras, PhD, University of Central Greece
John Greenwood, MBChB, PhD, University of Leeds
- 8:00 am Introductory Presentation**
John Greenwood, MBChB, PhD, University of Leeds
- 8:08 am O103 Multicenter Evaluation of Dynamic Three-dimensional Whole-heart Myocardial Perfusion Imaging for the Detection of Coronary Artery Disease Defined by Fractional Flow Reserve**
Robert Manka, MD, University Hospital Zurich
- 8:20 am O104 Contribution of Reperfusion Hemorrhage to T2 and T2* CMR in the Quantification of Hemorrhage Extent and Area-at-risk after Acute Myocardial Infarction**
Nilesh Ghugre, PhD, Sunnybrook Research Institute
- 8:32 am O105 The Ischaemic and Scar Burden Measured by Cardiac Magnetic Resonance Imaging in Patients with Ischaemic Coronary Heart Disease from the CE-MARC Study**
Sven Plein, MD, PhD, University of Leeds
- 8:44 am O106 Manganese-enhanced Cardiac MRI (MEMRI) Tracks Long-term In Vivo Survival and Restorative Benefit of Transplanted Human Amnion-Derived Mesenchymal Stem Cells (hAMSC) after Porcine Ischemia-Reperfusion Injury**
Rajesh Dash, MD, PhD, Stanford University
- 8:56 am O107 Paradoxical Effect of Smoking Following Acute Myocardial Infarction**
Giuliana Durighel, M.Sc., Imperial College
- 9:08 am O108 The Assessment of Ischaemic Burden: Validation of a "Functional" Jeopardy Score against Cardiovascular Magnetic Resonance**
Shazia Hussain, MbChB, King's College London
- 9:20 pm Q and A/Discussion**
- 9:30 am – 10:00 am Morning Break**

10:00 am – 11:30 am Concurrent Sessions

10:00 am Invited Lecture Session 15 – **Grand Ballroom B** NIHD Heart Failure – CMR to Guide Therapy

Moderators: Patricia Bandettini, MD, NHLBI

Matthias Friedrich, MD, CMR Centre at the Montreal Heart Institute

Upon completion of this educational activity, the participant should be better able to:

- List the most important diagnostic targets for CMR in non-ischemic heart failure
- Provide examples of direct and relevant impact of CMR on therapeutic decision- making in patients with non-ischemic heart failure
- Discuss the potential and role of CMR in non-ischemic heart failure

10:00 am From Diagnosis and Risk Stratification with CMR to Improved Patient Management and Outcome?

Steffen Petersen, MD, DPhil, Barts and The London

10:20 am Non-ischemic Heart Failure: Can CMR Add to Current Clinical Decision Making Regarding Device Therapy?

Francisco Leyva, MD, Queen Elizabeth Hospital

10:40 am Iron Overload: Impact of CMR on Patient Management and Outcome

Dudley Pennell, MD, Royal Brompton Hospital

11:00 am Hypertrophic Cardiomyopathy: When and How Can CMR Improve Patient Management Currently?

Christopher Kramer, MD, University of Virginia

11:20 am Q and A/Discussion

10:00 am Invited Lecture Session 16 – **Yosemite A-B** The Cardiovascular System – Metabolism and Endothelium

Moderators: Thoralf Niendorf, PhD, Max-Delbrueck Center for Molecular Medicine

Oliver Rider, MA, BmBCh, DPhil, University of Oxford

Upon completion of this educational activity, the participant should be better able to:

- Describe and explain challenges and capabilities of novel methodology tailored for probing metabolism with CMR
- Identify and summarize progress and promises of novel and conventional contrast enhancement mechanisms/agents customized for imaging the endothelium
- Recognize, describe and select opportunities of emerging heteronuclear CMR technologies including imaging and spectroscopy of electrolytes, bioenergetics of the heart, in vivo measurement of hydrogen ion concentration and assessment of carbon metabolism
- Discuss, practice and disseminate clinical applications of metabolic and molecular CMR

10:00 am Panning for Salt: ²³Na MR at High and Ultrahigh Fields

Thoralf Niendorf, PhD, Max-Delbrueck Center for Molecular Medicine

10:20 am Imaging pH with Hyperpolarized C13: Methods and Potential Research Applications

Damian Tyler, PhD, University of Oxford

10:40 am Myocardial Energy or Lack Thereof in Heart Failure

Robert Weiss, PhD, Johns Hopkins University

11:00 am Gadolinium and Novel Contrast Agents to Image the Endothelium

Shelton Caruthers, PhD, Washington University in St. Louis

11:20 am Q and A/Discussion

10:00 am Invited Lecture Session 17 – **Imperial Ballroom A** Small Animal MRI: Technical Aspects and Animal Models

Moderators: Daniel Messroghli, PhD, Deutsches Herzzentrum Berlin

Tobias Schaeffter, PhD, King's College London

Upon completion of this educational activity, the participant should be better able to:

- Specify the technical requirements to perform MRI of small animals
- Describe different animal models for diseases in cardiovascular research
- Understand the potential of advanced MRI techniques for cardiovascular research in small animals

10:00 am Technical Aspects of Cardiovascular MRI in Animals (Equipment, Animal Preparation, Anesthesia, Hardware, Sequences, etc.)

Frederick Epstein, PhD, University of Virginia

10:20 am Advanced Imaging Techniques (Hyperpolarized ¹³C, Spectroscopy, Parametric Imaging, etc.)

Jurgen Schneider, PhD, University of Oxford

10:40 am Animal Models of Coronary Artery Disease (Atherosclerosis, Perfusion, etc.)

Rene Botnar, PhD, King's College London

11:00 am Non-atherosclerotic Animal Models (Surgical, Genetic, Pharmacologic)

David Sosnovik, MD, Massachusetts General Hospital

11:20 am Q and A/Discussion

10:00 am Oral Abstraction Session 19 - **Imperial Ballroom B** Basic Translational - New Techniques: Myocardial and Whole-body Tissue Characterization, T1 and Flow Mapping

Moderators: Alex Barker, PhD, Northwestern University
James Moon, MD, The Heart Hospital

10:00 am Introductory Presentation

James Moon, MD, The Heart Hospital

10:08 am **O109 Relationship of Diffuse Myocardial Fibrosis to Body Composition: The Multi-Ethnic Study of Atherosclerosis (MESA)**

Songtao Liu, MD, NIH

10:20 am **O110 Myocardial Extracellular Volume Expansion in Patients with Hypertension**

Francois-Pierre Mongeon, MD, Montreal Heart Institute

10:32 am **O111A Multi-center Trial of LGE-MRI of the Left Atrium**

Eugene Kholmovski, PhD, University of Utah

10:44 am **O112 Arrhythmia Insensitive Rapid Cardiac T1 Mapping Pulse Sequence**

Daniel Kim, PhD, University of Utah

10:56 am **O113 Cardiovascular 4D Velocity Mapping Accelerated with k-t BLAST at 3.0 Tesla: 8-Channel vs. 32-Channel Coil Arrays**

Arshad Zaman, PhD, University of Leeds

11:08 am **O114 Quantitative Myocardial Inflammation Assessed Using a Novel USPIO-Magnetic Resonance Imaging Acquisition and Analysis Protocol**

Scott Semple, PhD, University of Edinburgh

11:20 am **Q and A/Discussion**

11:30 am – 1:00 pm **Closing Plenary Session** **Grand Ballroom A**

Moderators: Andrew Arai, MD, NHLBI
Albert de Roos, MD, PhD, Leiden University Medical Center

Upon completion of this educational activity, the participant should be better able to:

- Recognize that there are elements of truth to both sides of controversial fields
- Provide examples of the need for translational research to explore new pathophysiological processes that may someday be useful in patients
- Discuss the role of cardiovascular MR in clinical practice today and how this may evolve in the intermediate future

11:30 am **Debate – T2 is Mandatory to Differentiate a Reversible Injury**

11:30 am Pro: Matthias Friedrich, MD, CMR Centre at the Montreal Heart Institute

11:45 am Con: Raymond Kim, MD, Duke Medical Center

12:00 pm **Rebuttals**

12:10 pm **Late Breaking News – CMR from Mice to Men**

Andrew Arai, MD, NHLBI

12:30 pm **CMR: What is Unique and What Can Change Clinical Reality Today? CMR Beyond Beauty**

Frank Rademakers, MD, PhD, University Hospitals Leuven

12:50 pm **Q and A/Discussion**

1:00 pm – 1:30 pm **2013 Scientific Session** **Grand Ballroom B**
Highlights and Closing Remarks

Albert de Roos, MD, PhD, Leiden University Medical Center



SCMR 2013 Technologist Workshop



This activity has been approved for credit by the American Society of Radiologic Technology (ASRT) for a maximum of 17.5 CE credits.

Each technologist should claim only those hours of credit actually spent in this activity.

Friday, February 1, 2013

10:15 am - 6:00 pm

Plaza A

10:15 am - 10:20 am Welcome Remarks

Ralph Gentry, RT(R)(MR)(CT), William
Beaumont Hospital

10:20 am- 12:00 pm CMR Essentials

Moderator: Jane Francis, DCR(R), DNM, The
John Radcliffe Hospital
Chris Lawton, Bristol Heart Center

10:20 am Physics for CMR

Shelton Caruthers, PhD, Washington University in St. Louis

Upon completion of this educational activity, the participant should be better able to:

- Appreciate the source of signal generation from which CMR images are created
- Appreciate the basic physics behind CMR image acquisition and reconstruction
- Understand the need for and basic forms of motion compensation or correction in CMR

10:55 am CMR Safety Update

Elizabeth Tunnicliffe, PhD, University of Oxford

Upon completion of this educational activity, the participant should be better able to:

- Identify the range of risks posed by implants in the MR environment, and distinguish the physical mechanisms underlying these risks
- Comprehend differences between different types of scanner and how these impact on MR safety
- Identify relevant international guidance (including manufacturers' guidance) on scanning implants in MR and apply it in daily practice

11:30 am NSF - The Latest

Martin Prince, MD, PhD, Cornell and
Columbia Universities

Upon completion of this educational activity, the participant should be better able to:

- Understand the association of gadolinium and nephrogenic systemic fibrosis
- Identify patients at risk for nephrogenic systemic fibrosis
- Know how to minimize risk of nephrogenic systemic fibrosis

12:00 pm - 12:30 pm SCMR Business Meeting Grand Ballroom A

12:30 pm - 1:30 pm Lunch on own/ Posters/Exhibits Grand Ballroom B

1:30 pm - 3:15 pm CMR Essentials: The Basics

Moderator: Alison Fletcher, RT, Southampton
General Hospital
Jennifer Bryant, RT, Southampton University

1:30 pm ECG and Physiological Monitoring

Robert Evers, BSRT, MR, CV, CT, NIH

Upon completion of this educational activity, the participant should be better able to:

- Discuss Physiologic monitoring differences in the MRI suite (today and yesterday)
- Understand how the variation in Field Strength affects the ECG signal (Magnetohydrodynamic effect)
- Understand techniques to improve the ECG in the MR environment

2:05 pm Basic Cardiac Exam

Ralph Gentry, RT(R)(MR)(CT), William Beaumont Hospital

Upon completion of this educational activity, the participant should be better able to:

- Use cardiac anatomy to set up CMR scans
- Identify the basic views of cardiac MRI
- Independently perform a Cardiac MRI

2:40 PM Tips and Tricks for CMR - How to Acquire Perfect Images

Alison Fletcher, RT, Southampton General Hospital

Upon completion of this educational activity, the participant should be better able to:

- Recognize potential image quality issues before and after the image acquisition
- Manipulate the imaging sequence to overcome physiological problems
- Understand how and why manipulation helps produce the perfect image

3:15 pm - 3:45 pm Afternoon Break Grand Ballroom B

3:45 pm - 5:30 pm Basic CMR: Anatomy and Physiology

Moderator: Jane Francis, DCR(R), DNM, The
John Radcliffe Hospital
Kelley Adair, RT, Froedtert Hospital and
Medical College

3:45 pm Cardiac Anatomy with CMR

Stephen Darty, BS, RT, Duke University Medical Center

Upon completion of this educational activity, the participant should be better able to:

- Identify basic cardiac anatomy
- Understand basic CMR scan planes for cardiac anatomy
- Utilize CMR scan techniques to better visualize cardiac anatomy

4:20 pm Cardiac Physiology - What We Measure

Cameron Holloway, MBBS, MRCP, St. Vincent's
Hospital, Sydney

Upon completion of this educational activity, the participant should be better able to:

- Have a basic understanding of normal cardiac physiology
- Have a basic understanding of diseases which alter cardiac physiology
- Appreciate the different sequences using in cardiac MR to determine abnormal physiology

4:55 pm Cardiac Function: How and Why

Patricia Bandettini, MD, NHLBI

Upon completion of this educational activity, the participant should be better able to:

- Identify basic cardiac anatomy
- Understand the methodology by which cardiac function is obtained and analyzed
- Understand the indications and rationale for performing cardiac function

5:30 pm – 5:45 pm Friday Round-up: Pertinent Points of the Day

Jane Francis, DCR(R), DNM, The John Radcliffe Hospital

6:30 pm – 7:30 pm Moderated Poster Session 1/ Wine and Cheese Reception Grand Ballroom B

Saturday, February 2, 2013

7:45 am – 5:30 pm Plaza A

7:45 am – 9:30 am Inherited and Acquired Cardiomyopathies

Moderator: Anne Davis, RT, Oxford University Hospitals
Kraig Kissinger, RT, Beth Israel Deaconess Medical Center

7:45 am Hypertrophic Cardiomyopathy

James Moon, MRCP, The Heart Hospital

Upon completion of this educational activity, the participant should be better able to:

- Understand the role of CMR for imaging structure and function in CMR
- Understand the role for scar imaging
- Understanding the differential of HCM

8:20 am Dilated Cardiomyopathy

Valentina Puntmann, MD, PhD, King's College London

Upon completion of this educational activity, the participant should be better able to:

- Understand the evidence of the solid role for CMR in diagnosis, prognosis and guiding treatment
- Cope when faced with the challenging cases (difficult to image, difficult to diagnose)
- Understand future perspectives on the role of CMR in DCM (why should it be done in every patient presenting with HF)

8:55 am Amyloidosis and Other Storage Diseases

Theo Karamitsos, MD, PhD, University of Oxford

Upon completion of this educational activity, the participant should be better able to:

- Discuss the advantages CMR has over other imaging modalities in the assessment of patients with infiltrative diseases
- Better plan a CMR scan for patients with suspected cardiac amyloidosis or other infiltrative diseases
- Understand the use of novel tissue characterization techniques in the CMR assessment of patients with infiltrative diseases

9:30 am – 10:00 am Morning Break

Grand Ballroom B

10:00 am – 11:30 am Abstract Presentations

Moderator: Ralph Gentry, RT(R)(MR)(CT), William Beaumont Hospital
Mercedes Pereyra, RT, BS, MBA, Circle CVI

10:00 am Third Place Abstract T 3 Imaging the PM/AICD Patient; Fancy or Fanatical?

June Yamrozik, BS, Allegheny General Hospital

10:10 am Second Place Abstract T 2 Left Atrial Appendage Thrombus; Young or Old? Role of CMR in Definition

Mohammed Alnasser, BS, Allegheny General Hospital

10:20 am First Place Abstract T 1 Initial Experience of Imaging Cardiac Sarcoidosis Using Hybrid PET-MR - A Technologist's Case Study

Celia O'Meara, BSc (Hons), University College London Hospitals

10:30 am – 11:30 am Vendor Session: All You Wanted to Know About CMR But Were Afraid to Ask

11:30 am – 12:30 pm Moderated Poster Session 2/Lunch/Exhibits Grand Ballroom B

12:30 pm – 2:10 pm Perfusion and Viability Imaging

Moderator: Beth Goddu, RT, Beth Israel Deaconess Medical Center
Ronald Williams, BA, RT(R) (MR), Allegheny General Hospital

12:30 pm CMR: Stress Testing – Safety and Specifics in Resuscitation

Florian von Knobelsdorff, MD, Charité Medical University

Upon completion of this educational activity, the participant should be better able to:

- Know potential hazards of stress CMR including medication, contrast agents, magnetic field and limited monitoring
- Know the specifics for monitoring and resuscitation during stress CMR
- Understand the need for continuous education and training to guarantee low adverse event rates during stress CMR

1:05 pm CMR Detection of Ischemia: Which Method When

John Greenwood, MBChB, PhD, University of Leeds

Upon completion of this educational activity, the participant should be better able to:

- Understand the utility of dobutamine stress CMR
- Understand the utility of adenosine stress CMR
- Understand how to optimise stress perfusion images

1:40 pm Myocardial Viability

James Shambrook, BM, MRCP, University
Hospital Southampton

Upon completion of this educational activity, the participant should be better able to:

- Understand the term myocardial viability, and its significance in clinical practice
- Appreciate the variety of cardiovascular MRI sequences designed to assess myocardial viability, and their advantages and disadvantages
- Have an awareness of recent literature influencing current practice

2:10 pm – 2:40 pm Afternoon Break Grand Ballroom B

2:40 pm – 5:15 pm Vascular Imaging

Moderator: Kraig Kissinger, RT, Beth Israel
Deaconess Medical Center
Mercedes Pereyra, RT, BS, MBA, Circle CVI

2:40 pm Cardiovascular Complications of Obesity

Oliver Rider, BMBCh, MA, University of Oxford

Upon completion of this educational activity, the participant should be better able to:

- Describe and explain the changes in left ventricular morphology, function and energetics that accompany obesity and the potential impact that these changes have on outcome
- Identify the changes in aortic elasticity that occur in obesity and understand the role of free fatty acid levels in producing this phenotype
- Understand the effect of sustained and successful weight loss on cardiovascular function
- Recognise and understand the benefits and drawbacks that multi-parametric CMR brings to the study of obesity

3:15 pm MRA Techniques

Christopher Francois, MD, University of
Wisconsin-Madison

Upon completion of this educational activity, the participant should be better able to:

- Summarize differences in time-resolved and static contrast-enhanced MRA techniques
- Describe differences between various gadolinium-based contrast agents used for contrast-enhanced MRA, including performance at 3.0T
- Distinguish between various non-contrast-enhanced MRA techniques

3:50 pm Coronary Artery and Plaque Imaging

Debiao Li, PhD, Cedars-Sinai Medical Center

Upon completion of this educational activity, the participant should be better able to:

- Understand the MRI techniques for coronary artery and plaque imaging
- Understand preliminary clinical performances of these imaging techniques
- Obtain knowledge of the practical imaging protocols
- Understand new developments to improve the techniques

4:25 pm Technologists Quiz

Ralph Gentry, RT(R)(MR)(CT), William Beaumont Hospital

5:15 pm – 5:30 pm

Saturday Round-up: Pertinent Points of the Day

Kraig Kissinger, RT, Beth Israel Deaconess Medical Center

5:30 pm – 6:00 pm

CMR Technology Updates Grand Ballroom A

6:00 pm – 6:30 pm

Award Presentations Grand Ballroom A

6:30 pm – 8:00 pm

Award Reception Golden Gate Room

Sunday, February 3, 2013

8:00 am - 12:00 pm

Plaza A

8:00 am – 9:45 am

The Right Ventricle

Moderators Stephen Darty, BS, RT(N)(MR), Duke University Medical Center
Alison Fletcher, RT, Southampton General Hospital

8:00 am ARVC

David Bluemke, MD, PhD, NIH

Upon completion of this educational activity, the participant should be better able to:

- Describe the MRI findings of ARVC
- Describe typical MRI protocol for imaging ARVC

8:35 am Pulmonary Hypertension

William Bradlow, BMBS, Oxford University Hospitals

Upon completion of this educational activity, the participant should be better able to:

- Understand the definition and classification of pulmonary hypertension
- Appreciate the role of CMR in the assessment and follow-up of patients with pulmonary hypertension
- Understand how CMR might be used in the future in this patient group

9:10 am The RV in Congenital Heart Disease

Marina Hughes, MRCP, DPhil, Great Ormond Street Hospital

Upon completion of this educational activity, the participant should be better able to:

- Understand the advantage of Cardiac MR imaging for congenital heart disease
- Understand the morphology of the common types of congenitally abnormal RVs
- Become more familiar with the common types of surgical procedures to correct the congenital defects affecting the RV

9:45 am – 10:15 am

Morning Break

Grand Ballroom B

10:15 am – 11:50 am

Advanced CMR

Moderator: Robert Evers, BSRT, MR, CV, CT, NIH
Emer Sonnex, MPhil, DCRR, DCRT, University of Alberta Hospitals

10:15 am Multi-modality Imaging

Michael Gallagher, MD, William Beaumont Hospital

Upon completion of this educational activity, the participant should be better able to:

- Understand the role of multi-modality imaging in a variety of clinical applications
- Be familiar with the relative strength and weaknesses of cardiac MRI in comparison with other imaging modalities
- Discuss unique patient populations who benefit from cardiac MRI after an echocardiogram

10:50 am Multi-nuclear Spectroscopy

Stefan Neubauer, MD, University of Oxford

Upon completion of this educational activity, the participant should be better able to:

- Understand the differences between MRI and MRS
- Understand the potential of cardiac ³¹P, ¹³C, ²³Na and ¹H MR spectroscopy
- Be aware of the main current research applications of MRS
- Appreciate the options for further technical improvements and possible future clinical application of MRS

11:25 am Hyperpolarization: The Next Step

Damian Tyler, PhD, University of Oxford

Upon completion of this educational activity, the participant should be better able to:

- Identify the limitations of multi-nuclear spectroscopy and understand the different techniques available to generate hyperpolarized tracers
- Understand the processes involved in the dynamic nuclear polarization technique of hyperpolarization
- Review the current literature on the application of hyperpolarization techniques in the study of cardiovascular metabolism

11:50 am – 12:00 pm Workshop Round-up: Highlights of the Meeting

Ralph Gentry, RT(R)(MR)(CT), William Beaumont Hospital

11:30 am – 1:00 pm Closing Plenary Session **Grand Ballroom A**

Moderators: Andrew Arai, MD, NHLBI
Albert de Roos, MD, PhD, Leiden University Medical Center

11:30 am Debate – T2 is Mandatory to Differentiate a Reversible Injury

Pro: Matthias Friedrich, MD, CMR Centre at the Montreal Heart Institute
Con: Raymond Kim, MD, Duke Medical Center

12:00 pm Rebuttals

12:10 pm Late Breaking News – CMR from Mice to Men

Andrew Arai, MD, NHLBI

12:30 pm CMR: What is Unique and What Can Change Clinical Reality Today? CMR Beyond Beauty

Frank Rademakers, MD, PhD, University Hospitals Leuven

12:50 pm Q and A/Discussion

1:00 pm – 1:30 pm 2013 Scientific Session **Grand Ballroom A** Highlights and Closing Remarks

Albert de Roos, MD, PhD, Leiden University Medical Center

Technologist Posters

The posters accepted for the Technologist Workshop will be on display in both sessions. (T1-T11)

T1	Celia O'Meara	Initial Experience of Imaging Cardiac Sarcoidosis Using Hybrid PET-MR - A Technologist's Case Study
T2	Mohammed Alnasser	Left Atrial Appendage Thrombus; Young or Old? Role of CMR in Definition
T3	June Yamrozik	Imaging the PM/AICD Patient; Fancy or Fanatical?
T4	Kelley Thounlasenh	Experience with Cardiac MR Imaging of Patients with legacy ICDs or Pacemakers
T5	Rick Wage	Three Dimensional Delayed Enhancement Cardiovascular Magnetic Resonance Imaging of the Left Atrium and Pulmonary Veins for Atrial Fibrillation Ablation
T6	Michelle Walkden	Imaging Strategies of Coarctation Repairs
T7	Chris Lawton	Accuracy of Large Vessel Flow Evaluation Performed by Technologists in Patients with Congenital Heart Disease Using Cardiac MRI
T8	Ronald Williams	The Twisted Body: A Look into Heterotaxy
T9	Alison Fletcher	Steady State Free Precession Cardiovascular Magnetic Resonance: Accuracy of Left and Right Ventricular Functional Assessment in Children
T10	Alison Fletcher	Transaxial or Short Axis Right Ventricular Volume Measurements – Which Method Correlates More Closely with Main Pulmonary Artery Flow Values in Children Aged 9 Years?
T11	Mary Watkins	Cardiovascular MR Function and Coronaries: CMR 15 Minute Express

Friday, February 1, 2013

6:30 PM – 7:30 PM

Poster Presentations – Session 1 – Not accredited for CME

You are invited to meet the poster authors on Friday evening during the Wine and Cheese Reception.

CATEGORIES BEING PRESENTED IN POSTER SESSION 1 ARE:

- Basic Translational – New Techniques Ready for Clinical Application (P1-P58)
- Basic Translational – Post-Processing (P73-P90)
- Basic Translational – Pre-clinical Validation of an Existing Technique (P123-P139)
- CAD Ischemia and Viability (P172-P215)
- CAD Other (P222-P227)
- Clinical Outcome and Prognosis (P251-P280)

Poster Directory

Basic Translational – New Techniques Ready for Clinical Application (Poster Session I)

- | | | |
|------------|-----------------------------------|--|
| P1 | <i>Elizabeth Tunnicliffe</i> | Myocardial Diffusion Tensor Imaging Using Diffusion-prepared SSFP |
| P2 | <i>Choukri Mekkaoui</i> | Myocardial Infarct Delineation In Vivo Using Diffusion Tensor MRI and the Tractographic Propagation Angle |
| P3 | <i>Glenn Slavin</i> | True T1 Mapping with SMART1Map Saturation Method Using Adaptive Recovery Times for Cardiac T1 Mapping: A Comparison with MOLLI |
| P4 | <i>Loi Do</i> | MRI Characterization of Myocardial and Microvascular Injuries |
| P5 | <i>Anthony Price</i> | Frequency Drift during Intensive SSFP Scanning: Implications and Solution for Neonatal CMR |
| P6 | <i>Christopher Nguyen</i> | In vivo Cardiac Diffusion MRI: Second Order Motion Compensated Diffusion-Prepared Balanced Steady State Free Precession (SOMOCO Diff Prep bSSFP) |
| P7 | <i>Meral Reyhan</i> | Left Ventricular Twist, but not Circumferential-Longitudinal Shear Angle, Increases with Increasing Age in Normal Subjects |
| P8 | <i>Brett Fenster</i> | Vorticity for the Assessment of Right Ventricular Diastolic Dysfunction Using 4D Flow CMR |
| P9 | <i>Darach O h-Ici</i> | Validation of Small-Animal Look-Locker Inversion Recovery (SALLI) Cine versus Cine MR in Assessment of Left Ventricular Function |
| P10 | <i>Francesca Frijia</i> | 3D Cardiac Chemical Shift imaging of [1-13C] Hyperpolarized Acetate and Pyruvate in Pigs |
| P11 | <i>Jing Liu</i> | Accelerated 4D Flow Imaging with Variable-Density Cartesian Undersampling and Parallel Imaging Reconstruction |
| P12 | <i>Pierre Monney</i> | Self-navigated Free-breathing Isotropic 3d Whole Heart MRI for the Characterization of Complex Cardiac Anatomy in Patients with Congenital Heart Malformations |
| P13 | <i>Jeff Stainsby</i> | Myocardial T1 Mapping Using SMART1Map: Initial In Vivo Experience |
| P14 | <i>Graham Wright</i> | Automatic Myocardium Segmentation of LGE MRI by Deformable Models with Prior Shape Data |
| P15 | <i>Shashank Hegde</i> | Transmyocardial Therapeutic-Delivery using Real-Time MRI Guidance |
| P16 | <i>Kaleab Asress</i> | Myocardial Haemodynamic Responses to Dobutamine Stress Compared to Physiological Exercise during Cardiac Magnetic Resonance Imaging |
| P17 | <i>William Dominguez-Viqueira</i> | Passive Catheter Tracking With A Controllable Susceptibility Effect |
| P18 | <i>Valentina Puntmann</i> | Standardization of Myocardial T1 Time Measurements in Clinical Setting using MOLLI, shMOLLI and LL at 1.5T and 3T – the CONCEPT Study |
| P19 | <i>Elizabeth Jenista</i> | Virtual Chemical Inversion – A Novel Fat Suppression Technique for T1-Weighted Cardiac Imaging with Improved Delineation of the Fat-Myocardium Interface |
| P20 | <i>Yang Yang</i> | First-Pass Myocardial Perfusion Imaging with Whole Ventricular Coverage Using L1-SPIRIT Accelerated Spiral Trajectories |
| P21 | <i>Amedeo Chiribiri</i> | Normal Myocardial Perfusion Values on High-resolution Pixel-wise Perfusion Maps |
| P22 | <i>Bo Xiao</i> | MRI Compatible Hemodynamic Recording System |
| P23 | <i>Roy Jogiya</i> | Feasibility Of Three-Dimensional (3D) Balanced Steady-State-Free-Precession (Bssfp) Myocardial Perfusion MRI At 3 Tesla Using Local RF Shimming With Dual-Source RF Transmission |
| P24 | <i>Guan Wang</i> | CT and Quantitative 19F MRI Tracking of Encapsulated Mesenchymal Stem Cells in a Peripheral Arterial Disease Rabbit Model |
| P25 | <i>Anna Kociemba</i> | A Comparison of Oedema Detection With Diffusion-Weighted Imaging and T2-STIR Imaging in Patients with Acute Myocardial Infarction |
| P26 | <i>Khaled Abd-Elmoniem</i> | Coronary Vessel Wall MRI at 3.0 T using Time-Resolved Acquisition of Phase-Sensitive DIR (TRAPD): Initial Results in Patients with Risk Factors for Coronary Artery Disease |

Saturday, February 2, 2013

12:30 PM – 1:30 PM

Poster Presentations – Session 2 – Not accredited for CME

You are invited to meet the poster authors on Saturday afternoon from 12:30 pm – 1:30 pm.

CATEGORIES BEING PRESENTED IN POSTER SESSION 2 ARE:

- Congenital Heart Disease (P281-P300)
- Cost Effectiveness and Comparison to Other Modalities (P59-P61)
- EP and Interventional Applications (P62-P72)
- Non-ischemic Heart Disease – Other (P91-P122)
- Non-ischemic Heart Disease – Primary and Secondary CMP (P140-P171)
- Physiology and Metabolism including Spectroscopy (P216-P220)
- Systemic Disease, Metabolism, and Endothelium (P221)
- Vascular MRI (P228-P250)

P27	Jeremy Collins	Quantitative Cardiac MR Assessment of Left Ventricular Diastology
P28	Darach O h-Ici	Assessment of Acute Myocardial Ischemia with Unenhanced T1 mapping MR Imaging
P29	Sebastian Weingärtner	Improved 3D Late Gadolinium Enhancement MRI for Patients with Arrhythmia or Heart Rate Variability
P30	Mehmet Akcakaya	Improved Efficiency for Respiratory Motion Compensation in Three-Dimensional Flow Measurements
P31	Eun-Ah Park	Ferritin as a Reporter Gene of In Vivo Stem Cell Tracking by 9.4-T Cardiac MR in a Rat Model of Myocardial Infarction
P32	Bradley Allen	Incorporating Time-resolved Three-dimensional Phase Contrast (4D flow) MRI in Clinical Workflow: Initial Experiences at a Large Tertiary Care Medical Center
P33	Shuhei Nitta	Evaluation of Clinical Datasets in Fully Automatic Planning Assist System for Cardiac Magnetic Resonance Imaging
P34	Paul Kim	Dual Contrast CMR for Evaluation of Telmisartan and Amlodipine Combination Therapy in the Diabetic Murine Myocardial Injury Model
P35	Uta Preim	Comparison of 4D and 2D Phase Contrast Magnetic Resonance Imaging of the Great Mediastinal Vessels
P36	Michaela Schmidt	Novel Highly Accelerated Real-Time CINE-MRI Featuring Compressed Sensing with k-t Regularization in Comparison to TSENSE Segmented and Real-Time Cine Imaging
P37	Florian von Knobelsdorff	Segment-based Myocardial T1 and T2 Mapping at 3 T: Feasibility and Normal values
P38	Gabriel Camargo	R2* for Myocardial Iron Quantification at 3T CMR Using an Advanced Shimming Algorithm
P39	Songtao Liu	Sample Size Calculation for Clinical Trials Using Cardiac Magnetic Resonance Partition Coefficient and Extracellular Volume Fraction for the Assessment of Diffuse Myocardial Fibrosis
P40	Mirja Neizel	A MR conditional Bioprobe for MR Guided Myocardial Biopsy: Initial Experiences
P41	Rob van der Geest	Robust Motion Correction in the Frequency Domain of Cardiac MR Stress Perfusion Sequences
P42	Mehmet Akcakaya	Accelerated Three-Dimensional Free-Breathing First Pass Cardiac Perfusion at 1.5T
P43	Daniel Knight	Myocardial Velocity Mapping for the Right Ventricle in Pulmonary Arterial Hypertension Using a Novel Image-Based Respiratory Self-Navigation from a Golden-Angle Spiral Acquisition
P44	Markus Henningsson	3D Saturation Recovery Imaging for Free Breathing Myocardial T1 Mapping
P45	Vidya Nadig	Quantification of Left Ventricular Ejection Fraction using Through-Time Radial GRAPPA for Real-Time Imaging
P46	Sebastian Weingärtner	Heart-Rate Independent Myocardial T1-Mapping Using Combined Saturation and Inversion Preparation Pulses
P47	Christian Binter	Assessment of Energy Loss in Aortic Stenosis Using Bayesian Multipoint Phase-Contrast MRI
P48	Daniel Kim	Inter-Subject Variation in Partition Coefficient is Largely due to Variation in LGE Blood T1
P49	Jun Liu	2D bSSFP Real-time Cardiac CINE-MRI: Compressed Sensing Featuring Weighted Redundant Haar Wavelet Regularization in Space and Time
P50	Mitchell Cooper	Improved T1 Fitting with the MOLLI sequence
P51	Ruud van Heeswijk	Self-navigated Three-dimensional Cardiac T2 Mapping at 3T
P52	Holden Wu	Concentric Rings with k-t Acceleration Enables Rapid and Effective Fat-Water-Separated Cardiac Cine MRI at 3 T
P53	Florian Bönner	T2 Mapping in Different Cardiomyopathies: First Clinical experience
P54	Jos Westenberg	Left Ventricular Inflow Propagation Velocity for Diastolic Function Testing: Head-to-Head Comparison between Velocity-Encoded MRI and Color M-mode Doppler Echocardiography
P55	Wolfgang Rehwald	Application of Continuous Composite RF Pulses as Components of a Fat-Suppressed T2-Preparation Module for 3 Tesla – Evaluation of its Fat Suppression Efficiency in Clinical Cardiac Patients
P56	Merlin Fair	A Novel Approach To Phase-Contrast Velocity Offset Correction by in Vivo High-SNR Acquisitions
P57	Tamara Rothstein	Artifact Suppression of SSFP Cine Sequences at 3T Using a Novel Automatic 3D Shimming Algorithm
P58	Bejal Pandya	Towards a More Comprehensive Assessment of Cardiovascular Fitness – Magnetic Resonance Augmented Cardiopulmonary Exercise Testing (MR-CPEX)

Cost Effectiveness and Comparison to Other Modalities (Poster Session II)

P59	Rima Patel	Diagnostic Performance of CMR and Transthoracic Echocardiography in Clinical Evaluation of Cardiac Masses with Histopathological Correlation
P60	Chesnal Arepalli	Cardiac MRI for Evaluation of Paravalvular Leak after Transcatheter Aortic Valve Replacement
P61	Bjorn Wieslander	Localization of Myocardial Scar in Patients with Cardiomyopathy and Left Bundle Branch Block Using Electrocardiographic Selvester QRS Scoring - Comparison with Cardiac Magnetic Resonance
P62	Moneal Shah	Assessment of the Trabeculated to Compacted Layer Ratio of the Left Ventricle Using Short and Longitudinal Axis Views in Young Patients Presenting with Ventricular Dysrhythmias
P63	Jonathan Suever	Relationship between MRI-based Mechanical Activation Delays and Direct Intraoperative Measurements of Electrical Delay in Patients Undergoing Cardiac Resynchronization
P64	Zhong Chen	Simultaneous Non-Contact Mapping Fused with CMR Derived Grey Zone to Explore the Relationship with Ventricular Tachycardia Substrate in Ischaemic Cardiomyopathy
P65	Benoit Desjardins	Detection of Intramural Scar by Electroanatomic Mapping versus MRI in Patients with Non-Ischemic Cardiomyopathy

P66	Robert Biederman	Predicting Potentially Fatal Conductive Disease in Sarcoidosis; Can Cardiac MRI Define the Risk?
P67	James Harrison	A Comparison Of Late Gadolinium Enhancement Magnetic Resonance Imaging and Left Atrial Endocardial Voltage
P68	Sébastien Roujol	Towards Cardiac and Respiratory Motion Characterization from Electrophysiology Data for Improved Real Time MR-Integration
P69	Yucheng Chen	Utility of Cardiac Magnetic Resonance Imaging in Identifying the Potential Structural Heart Disease for Ventricular Arrhythmia Before Ablation
P70	Zion Tse	Human & Swine Studies of Concurrent 12-Lead ECG & MRI
P71	Jonathan Suever	Identification of the Size and Location of Dyssynchronous Regions in Patients Undergoing CRT
P72	Sarah Peel	The Dual-IR Sequence Improves the Inter-Observer Correlation in Post-Ablation Atrial Scar Size Measurements Compared with the Traditional IR Sequence

Basic Translational – Post-processing (Poster Session I)

P73	Marcus Rault	Motion Correction Using Hierarchical Local Affine Registration Improves Image Quality and Myocardial Scar Characterisation from T1 Maps Acquired with MOLLI
P74	Raghav Ramachandran	Principle Component Analysis of Myocardial Strain to Quantify Left Ventricular Dyssynchrony
P75	David Chen	Comparison of Fully Quantitative and Semi-Quantitative Measure of Women's Myocardial Perfusion Reserve for Detection of Microvascular Coronary Dysfunction
P76	Antonella Meloni	Are Cardiac R2* Values Dependent on the Image Analysis Approach Employed?
P77	Alistair Young	The Effect of Septal Basal Segments in the Assessment of Systolic Dyssynchrony Index
P78	Xiaopeng Zhou	Comparison of Look-Locker and MOLLI Sequences for T1 Mapping in Hypertrophic and Ischemic Cardiomyopathy
P79	Mohammed ElBaz	Quantification of Diastolic Vortex Shape Deformation in Left Ventricular Filling from 4D Flow MRI
P80	Audrey Sigmund	Semi-Automatic Inline Calculation of Left Ventricular Function using Cardiac MRI (CMR)
P81	Amita Goyal	Delayed Enhancement and Myocardial Velocity Mapping CMR Reveal Differences in Regional Left Ventricular Function with Varying Levels of Scar
P82	Andrew Gilliam	Motion Guided Segmentation of the Right Ventricle for 3D Cine DENSE MRI
P83	Fei Han	Improved Cardiac Motion Self-gating
P84	Niharika Varma	Quantification of Coronary Enhancement – Reproducibility of Methods and Feasibility of Quantification in Health and Disease
P85	Niloufar Zarinabad	Improved Accuracy of Myocardial Blood Flow Quantification by First Pass Perfusion MR when Corrected for Steady State T1 Relaxation
P86	Nilesh Ghugre	T1, T2 and T2* Mapping Following Acute Myocardial Infarction in a Porcine Model: Regional and Serial Alterations During Infarct Healing
P87	Bruce Spottiswoode	Fast Semi-Automated Analysis of Pulse Wave Velocity in the Thoracic Aorta using High Temporal Resolution 4D Flow MRI
P88	Abbas Moghaddam	High Resolution High Density CMR Circular Tagging
P89	Pau Medrano-Gracia	Optimal Patient Classification via Statistical Decomposition of a 3D Left-Ventricular Atlas1
P90	Shah Azarisman	Optimal Planimetry Location for MRI-Derived Mitral Inflow Velocity Assessment Of Diastolic Function

Non-ischemic Heart Disease – Other (Poster Session II)

P91	Valentina Puntmann	Age-gender Reference Values of Native Myocardial T1 at 1.5T and 3T: Comparison of MOLLI and shMOLLI
P92	Meral Reyhan	Left Ventricular Twist and Shear-Angle in Patients with Mitral Regurgitation
P93	Fabian aus dem Siepen	Thickness of the Midventricular Left Ventricular Wall is Predictive of Survival in Different Forms of Cardiac Amyloidosis
P94	Florian Andre	Prevalence of Cardiac Morphological and Functional Alterations in Systemic Lupus Erythematosus Patients with a Low Disease Activity
P95	Valentina Puntmann	Prevalence of Myocardial Crypts in a Cardiac Magnetic Resonance Population - A Large Cohort Study
P96	Andreas Rolf	Comprehensive Work Up of Right Ventricular Reverse Remodelling after Successful Pulmonary Endarterectomy for Chronic Thromboembolic Pulmonary Hypertension – a Cardiac Magnetic Resonance Study
P97	Sebastian Buss	Feature Tracking Cardiac Magnetic Resonance in Systemic Light Chain Amyloidosis
P98	Ulf Radunski	Combining Extracellular Volume Fraction Imaging and T2 Quantification by Cardiovascular Magnetic Resonance In Patients with Clinically Suspected Myocarditis
P99	Daniela Föll	Effect of Cold Ischemic Times and Time after Transplantation on Regional Myocardial Motion after Heart Transplantation
P100	Christopher Schneeweis	Comparison of Myocardial Tagging and Feature Tracking in Patients with Severe Aortic Stenosis
P101	Jamie Mullally	Marked Variability in Published CMR Criteria for Left Ventricular Basal Slice Selection - Impact of Methodological Discrepancies on LV Mass Quantification
P102	Antonella Meloni	Reference Ranges for Biventricular Volumes and Ejection Fraction and for Left Ventricular Mass in Adult Thalassemia Intermedia Patients Without Myocardial Iron Overload
P103	Pablo Pazos	Diagnostic Value of Cardiac Magnetic Resonance for the Differential Diagnosis of Thrombus vs Tumor

- P104** Yon Mi Sung Myocardial T1 and T2 Mappings with Automatic Motion Correction at 3 Tesla MR: Comparison of T1 and T2 Measurements by Breathhold, Free-Breathing and Cardiac Cycle
- P105** Lewis Sommerville Characterization of Dilated Cardiomyopathy Using Tissue Phase Mapping and Extracellular Volume Measurement
- P106** Ethan Rowin Noncontrast T1 Values Do Not Correlate to Clinically Relevant Variables in Patients with Hypertrophic Cardiomyopathy
- P107** Kate Hanneman Predictive Value of Cardiac Magnetic Resonance for the Diagnosis and Surgical Relief of Pericardial Constriction
- P108** Juliet Varghese Exercise Induced Changes in T1, T2 Relaxation Times and Blood Flow in the Lower Extremities in Healthy Subjects
- P109** Teerapat Yingchoncharoen Diffuse Myocardial Fibrosis, but not Focal Fibrosis Identified with Delayed Enhancement, Is an Independent Predictor Of LV Reversed Remodeling In Patients with Idiopathic Non-Ischemic Cardiomyopathy
- P110** Petter Dyverfeldt Turbulence Mapping: A New CMR Approach for Assessment of Aortic Stenosis
- P111** Antonella Meloni Biventricular Dimensions and Function in Pediatric Sickle-Cell Disease and Thalassemia Major Patients Without Cardiac Iron
- P112** Sahadev Reddy Evaluation of Cardiac Valvular Regurgitant Lesions by Cardiac MRI Sequences: Comparison of a Four Valve Semi-quantitative vs. Quantitative Approach
- P113** Christopher Schneeweis Characterization of Myocardium and Myocardial Motion in Patients Considered for Transaortic Valve Implantation (TAVI)
- P114** Akhlaque Uddin Quantitative Analysis of Post-TAVI Aortic Regurgitation with Cardiovascular Magnetic Resonance and the Relationship to Transthoracic Echocardiography
- P115** Lauren Simprini Established Binary Cutoffs for Cine-CMR Basal Slice Selection – An Unrecognized Source of CMR Discordance with Echocardiography and Necropsy Derived LV Mass
- P116** Ulf Radunski Extracellular Volume Imaging by T1 Mapping Cardiovascular Magnetic Resonance in Patients with Clinically Suspected Myocarditis
- P117** Raymond Chan Detection of Left Ventricular Diffuse Fibrosis With Quantitative T1 Mapping in Patients with Paroxysmal Atrial Fibrillation
- P118** Afsaneh Haftbaradaran Cardiac Magnetic Resonance Imaging for Myocardial Perfusion and Diastolic Function - Reference Control Values for Women
- P119** Geoffrey Kung Transmural Heterogeneity of Microstructural Remodeling in Pacing Induced Heart Failure Measured by Diffusion Tensor MRI
- P120** Rebekka Kammerer Comparison of Late Gadolinium Enhancement Patterns in Different Forms of Cardiac Amyloidosis
- P121** Maria Fernanda Braggion Santos Myocardial Late Gadolinium Enhancement in Systemic Lupus Erythematosus as a Marker of Chronic Inflammation
- P122** Yon Mi Sung Shortened Modified Look-Locker Inversion Recovery for Myocardial T1 Mapping in Healthy Volunteers: Determination of Reference T1 Relaxation Times at 3 Tesla MR According to Different Contrast Injection Methods

Basic Translational – Pre-clinical Validation of an Existing Technique (Poster Session I)

- P123** William Moody Comparison of Magnetic Resonance Feature Tracking for Longitudinal Strain Calculation With Spatial Modulation of Magnetization Imaging Analysis
- P124** Subha Raman Ex vivo Signatures of Myocardial Edema by in vivo T2-CMR in a Novel Large Animal Model of NSTEMI-ACS
- P125** Sophia Hammer-Hansen Determination of the Severity of Blood Flow Reduction Required to Cause Detectable T2 Enhancement in the Area at Risk of a Reperfused Canine Model of Acute Myocardial Infarction
- P126** Petter Dyverfeldt Reproducibility of Quantitative Analysis of Aortic 4D Flow Data
- P127** Munemura Suzuki Intra- and Interobserver Variability of Left Ventricular Diastolic Inflow Parameters Measured by Three Chamber View 2D Cine Three-Directionally Encoded (3Ch. 2D-Cine-3 Dir.) Phase Contrast MR Velocity Vector Map
- P128** Alejandro Roldán-Alzate 4D Flow-Sensitive MR Estimation of Pulmonary Vascular Resistance
- P129** Jaehoon Chung In Vivo Validation of an Ultra-High Field, High Temporal Resolution Myocardial Tagging Technique for Assessment of Diastolic Function in Mice
- P130** Daniel Kim MRI and Histological Assessment of Left Ventricular Fibrosis Induced by Atrial Fibrillation in a Canine Model
- P131** Ilan Gottlieb Myocardial T2 Mapping is Better than T2W Turbo Spin Echo for the Diagnosis of Acute Myocarditis at 3T CMR
- P132** Judy Luu Transmural Variations of Vasodilator-Induced Changes of Myocardial Oxygenation Vary With Age and the Presence of Diabetes Mellitus Type II: A study using Oxygen-Sensitive Cardiovascular MR
- P133** Robin Simpson Right ventricular (RV) Velocity Measurements Using High Resolution Spiral Myocardial Phase Velocity Mapping (PVM)
- P134** Fabio Raman Modified Look-Locker Inversion Recovery T1 Mapping Indices: Assessment of Accuracy and Reproducibility between MRI Scanners
- P135** Yoshinori Suizuki Effects of Heart Rate in Modified Look-Locker Inversion Recovery (MOLLI) T1 Mapping
- P136** Gaby Captur Reliability of Left Ventricular Noncompaction Imaging Criteria - The Fractal Facts
- P137** Jonathan Pan Myocardial Remodeling in Reperfused Myocardial Infarction with Multiparametric CMR: Does Diffuse Fibrosis Occur in Remote Noninfarcted Myocardium?
- P138** Gabriel Camargo Myocardial Iron Quantification Using T2-prepared SSFP Parametric Images at 3 Tesla
- P139** Andreas Schuster Quantitative Assessment of Magnetic Resonance Derived Perfusion Measurements Using Advanced Techniques: Comparison with Microspheres in an Explanted Pig Heart System

Non-ischemic Heart Disease – Primary and Secondary CMP (Poster Session II)

- P140** Daniel Sado Global Extracellular Volume (ECVglobal) in HCM – The “Next Generation” Test for Risk in Hypertrophic cardiomyopathy?
- P141** Erik Hedstrom A Fully Automatic Algorithm for Assessing T2* and Its Certainty Value for Accurate Cardiac and Liver Iron Load Determination
- P142** Suchi Grover Early and Late Left Ventricular Effects of Breast Cancer Chemotherapy: A Prospective Multi-Centre Study Using Advanced Cardiac Imaging
- P143** Eduardo Pozo Atrial Delayed Enhancement Is Associated with the Severity of Diastolic Dysfunction in Cardiac Amyloidosis
- P144** Frank Gommans Elevated High-Sensitivity Cardiac Troponin is Associated with Hypertrophy and Fibrosis assessed with CMR in Patients with Hypertrophic Cardiomyopathy
- P145** Tefvik Ismail Effects of Anabolic Steroid Use on Myocardial Perfusion in Body-Builders: A Quantitative Cardiovascular Magnetic Resonance Study
- P146** Hassan Abdel-Aty Bio-imaging: Late Gadolinium Enhancement in Dilated Cardiomyopathy and its Relation to Novel Biomarkers of Fibrosis and Remodeling
- P147** Fabian aus dem Siepen Diffuse Myocardial fibrosis in Early Forms of Dilated Cardiomyopathy: Insights from T1 Mapping Cardiovascular Magnetic Resonance
- P148** Marly Silva Progression of Myocardial Fibrosis by Magnetic Resonance Imaging in Patients With Duchenne and Becker Muscular Dystrophy
- P149** Jonathan Soslow T1 Mapping Is Abnormal Before Decline in EF in Patients with Becker and Duchenne Muscular Dystrophy
- P150** Jennifer Franke Characteristics and Clinical Associations of Late Gadolinium Enhanced Cardiovascular Magnetic Resonance in Lamin A/C, Cardiac Troponin T and Myosin Binding Protein C Gene Mutation Related Cardiomyopathies
- P151** Daniel Thomas Prevalence of Cardiac Involvement in Sarcoidosis Detected by CMR: Initial Results in 90 Patients
- P152** Linus Andersson Left Ventricular Mechanical Dyssynchrony by Cardiac Magnetic Resonance is Greater in Patients with Strict vs. Conventional ECG Criteria for Left Bundle Branch Block
- P153** Nicola Edwards Impaired Circumferential and Longitudinal Myocardial Deformation In Early Stage Chronic Kidney Disease: The Earliest Features Of Uremic Cardiomyopathy
- P154** Eduardo Pozo Revisiting Morphological Features of Cardiac Amyloid with Cardiac Magnetic Resonance
- P155** Sage Kramer Obesity Reduces Left Ventricular Strains, Torsion and Synchrony in Mouse Models: a cine DENSE MRI Study
- P156** Jennifer Jordan Dispersion of Hyperenhancement in Late Gadolinium Enhancement Cardiovascular Magnetic Resonance Measured with Moran's I is Associated with a Decrement in LVEF 6 Months after Cardiotoxic Chemotherapy
- P157** J. Ronald Mikolich What is the Role of Cardiac MRI in the Diagnosis of Left Ventricular Non-compaction?
- P158** Hassan Abdel-Aty Myocardial Bridging in Patients with Hypertrophic Cardiomyopathy is not Associated with Late Gadolinium Enhancement at Cardiac Magnetic Resonance Imaging
- P159** Nicola Edwards Alström Syndrome: A Paradigm for Diffuse Fibrosis and Clinical Progression
- P160** Arun Natarajan Prognostic Significance of Ventricular Function and Late Gadolinium Enhancement on CMR in Symptomatic Patients With Scleroderma
- P161** Eduardo Pozo Estimation of Cardiac Amyloid Infiltration with Myocardial T1 Mapping Correlates with Severity of Cardiac Involvement
- P162** Vanessa Ferreira The Diagnostic Performance of Novel Techniques for the Detection of Acute Myocarditis: A Clinical Study Using Cardiovascular Magnetic Resonance Imaging
- P163** Olga Toro-Salazar Defining Late Onset Occult Asymptomatic Cardiotoxicity in Childhood Cancer Survivors exposed to Anthracycline Therapy: A Cardiac Magnetic Resonance Imaging Study
- P164** Suchi Grover Contemporary Breast Cancer Chemotherapy Leads to Persistent Late Right Ventricular Myocardial Dysfunction: A Prospective Multi-Centre Study
- P165** Alexis Jacquier Potential Value of T1 Mapping in Dilated Cardiomyopathy and Correlation with Circumferential Strain
- P166** Jason Dungu High Yield of Cardiac MRI in the Investigation of Elderly Heart Failure Patients of African Descent
- P167** Sebastian Buss Feature Tracking Cardiac Magnetic Resonance Imaging for the Evaluation of Myocardial Strain in Patients with Dilated Cardiomyopathy and in Healthy Controls
- P168** Viviana Maestrini Variable Myocardial Interstitial Expansion by T1 mapping within LGE area in Infarction and Hypertrophic Cardiomyopathy
- P169** Celia Corona-Villalobos Maximal Left Ventricular Wall thickness: A comparison between CMR and Echocardiography in Hypertrophic Cardiomyopathy
- P170** Golmehr Ashrafpoor Assessment Of Diastolic Function from Velocity-Encoded Cardiac Magnetic Resonance Data in Patients with Hypertrophic Cardiomyopathy
- P171** Anna Schmidt T1 Mapping as an Indication of Diffuse, Diabetes-related Myocardial Collagen Deposition

CAD Ischemia and Viability (Poster Session I)

- P172** Ananth Kidambi Reciprocal ECG Change in ST-elevation Myocardial Infarction is Associated with Area at Risk and Myocardial Salvage Following Revascularization
- P173** Deneen Spatz Detection of Acute Myocardial Infarct with T1-Mapping Post Ferumoxytol Contrast Administration
- P174** Avinash Kali Acute Reperfusion Intramyocardial Hemorrhage Leads to Regional Chronic Iron Deposition in the Heart
- P175** Neha Sekri Myocardial Ischaemic Burden Assessed by Three-dimensional Perfusion CMR – Comparison with Myocardial Perfusion Scintigraphy
- P176** Johannes Schmidt Whole-heart First-pass Myocardial Perfusion Imaging with Non-Rigid Respiratory Motion Correction
- P177** Justin Lam Restorative Effects of Alpha-1A Adrenergic Are Detectable Using T2* and Targeted Nanoparticles in a Mouse Myocardial Infarction (MI) Model
- P178** Tatsuro Ito MR Flow Measurement of Coronary Artery Bypass Graft and Stress Myocardial Perfusion MRI for the Detection of Graft Stenosis
- P179** Gunnar Lund Serial T2-mapping to Quantitatively Monitor Resorption of Myocardial Edema Following Acute Myocardial Infarction
- P180** Igor Klem Comparison of Methods For DE-CMR Infarct Size Quantification - Reproducibility Among Three Core Labs
- P181** Haiyan Ding High-Resolution Quantitative 3D T2 mapping Allows Quantification of Changes in Edema after Myocardial Infarction
- P182** Qian Tao A New Method for Objective Myocardial Scar Characterization Using MR Late Gadolinium Enhancement and Post-contrast Look-Locker Sequences
- P183** Eun-Ah Park Reverse Remodeling after Coronary Revascularization in Patients with Ischemic Heart Disease: Focused on Change of Infarct Scar
- P184** Katharina Strach First-Pass Myocardial Stress Perfusion MRI Using k-t BLAST at an Open MR-system: Initial Results in Comparison to FFR Measurements
- P185** Bobby Heydari Diabetes Remains An Independent Risk Factor For Adverse Remodeling Following Acute Myocardial Infarction Even With Quantification Of Total Infarct Size And Change In Myocardial Extracellular Volume Fraction By CMR
- P186** Ravi Shah Stress Cardiac Magnetic Resonance Imaging Effectively Reclassifies Risk in Patients with Known or Suspected Stable Coronary Artery Disease
- P187** Thomas Walcher Adenosine-perfusion at 1.5 Tesla is Superior to 3 Tesla for the Detection of Coronary Artery Disease
- P188** Elisa McAlindon Evaluation of 7 Techniques for the Quantification of Myocardial Oedema in STEMI
- P189** Rachid Macwar The Prognostic Value of Adenosine Cardiac Magnetic Resonance Imaging: Can a Stress Test Predict the future?
- P190** John Stirrat Comparison of Scar Signal Quantification Using Phase Corrected and Conventional Magnitude Inversion Recovery Delayed Enhancement Imaging in Patients with Ischemic And Non-Ischemic Cardiomyopathy
- P191** Francisco Contijoch Real Time MRI of Border Zone End-Systolic Regional Work
- P192** Tarinee Tangcharoen Fragmented QRS on 12-lead EKG is an Independent Predictor for Myocardial Scar: A Cardiovascular Magnetic Resonance Imaging Study
- P193** Joao Cavalcante Going beyond Ejection Fraction - CMR Assessment of Ventricular-Vascular Coupling and LV Remodeling Predicts Diastolic Dysfunction in Advanced Ischemic Cardiomyopathy
- P194** John Greenwood Comparison of Cardiovascular Magnetic Resonance to Single-Photon Emission Computed Tomography in Women with Suspected Coronary Artery Disease: A CE-MARC Sub-study
- P195** Ananth Kidambi Visual and Quantitative Perfusion Analysis in Left Main Stem Disease: a CE-MARC Substudy
- P196** Sebastian Buss Early Assessment of Infarct Size by Feature Tracking Cardiac MRI in Patients with Myocardial Infarction
- P197** Dirk Lossnitzer Feasibility of High Dose Dobutamine Stress and Scar Imaging in High Field Open MRI in Patients with Suspected Coronary Artery Disease
- P198** Reuben Thomas The Effect of Distal Coronary Embolization on Infarct Size in a Porcine Acute Myocardial Infarction Model
- P199** Peter Bernhardt 1.5 and 3 Tesla Quantification of Myocardial Perfusion Reserve in Comparison to Fractional Flow Reserve
- P200** Kalpa De Silva Cardiovascular Magnetic Resonance Myocardial Feature Tracking Predicts Severity of Wall Motion Abnormalities following Acute Coronary Syndromes
- P201** Gunnar Lund Evaluation of a New Semi-Automatic Strategy for Quantitative Measurement of Infarct Size in Patients with Acute and Chronic Myocardial Infarction Using Cardiac Magnetic Resonance Imaging
- P202** Amedeo Chiribiri Quantification of the Ischemic Burden on Cardiac Magnetic Resonance Perfusion Maps by Perfusion Threshold Analysis
- P203** Joao Cavalcante Right Ventricular Systolic Dysfunction in Patients with Severe Ischemic Cardiomyopathy - CMR Insights into an Interventricular Relationship
- P204** Birgit Langhans Reproducibility of Area at Risk Assessment in Acute Myocardial Infarction by T1- and T2-Mapping Sequences in Cardiac Magnetic Resonance Imaging in Comparison to Tc99m-Sestamibi SPECT
- P205** Manish Motwani Regional Variation in Myocardial Blood Flow in Patients with Left Bundle Branch Block Evaluated with Quantitative Perfusion CMR
- P206** Manish Motwani Quantitative Whole-Heart Three-Dimensional Magnetic Resonance Myocardial Perfusion Imaging in Systole and Diastole at 3.0T

- P207** Philipp Halbfass
Comparison of MRI and Transthoracic Echocardiography for Detection of Myocardial Lesions in Patients with Coronary Artery Disease and Preserved Left Ventricular Function
- P208** David Nordlund
T2-STIR CMR Imaging can be used to Assess Myocardium at Risk with Gadolinium Present in an Experimental Setting
- P209** Matthias Friedrich
Peri-Infarct Edema Leads to Overestimation of Myocardial Salvage in Late Reperfused Myocardial Infarction
- P210** Christoph Jensen
Assessment of Semi-Quantitative Parameters for Visual Interpretation of Stress-Perfusion CMR in Obstructive Coronary Artery Disease
- P211** Rolf Gebker
High-dose Dobutamine Stress Magnetic Resonance Perfusion Imaging at 3.0 Tesla
- P212** Avinash Kali
CMR-based Assessment of Myocardial Edema in the Setting of Ischemia and Reperfusion
- P213** Ramkumar Krishnamurthy
Quantitative Evaluation of Scar, Area at risk, and Wall thickening in a Porcine Model of Sub-acute Myocardial Infarction (MI)
- P214** Ananth Kidambi
Associated Factors for a False Negative Cardiovascular Magnetic Resonance Perfusion Study: a CE-MARC Substudy
- P215** Tae Hoon Kim
Determination of the Area at Risk using Quantitative T2 mapping in Re-perfused Myocardial Infarction; A Comparison with Late Gadolinium Enhancement and CINE Imaging

Physiology and Metabolism including Spectroscopy (Poster Session II)

- P216** David Lopez
ASL Demonstrates Higher and More Homogenous Calf Muscle Perfusion with Post-Occlusion Hyperemia than with Exercise
- P217** Andreas Sigfridsson
Multi-echo Single-shot EPI for Hyperpolarized ¹³C Cardiac Metabolic Imaging of Small Animals
- P218** Per Arvidsson
Quantification of Left and Right Atrial Kinetic Energy Using Four-Dimensional Intracardiac Magnetic Resonance Imaging Flow Measurements
- P219** Sairia Dass
Cardiac ³¹P MRS Analysis Development: Improved Fitting of 2, 3 DPG
- P220** Meghana Jayam
Afterload Excess and Myocardial Performance
- P221** Ntobeko Ntusi
Myocardial and Vascular Dysfunction in Patients with Rheumatoid Arthritis: Insights from Cardiovascular Magnetic Resonance

CAD Other (Poster Session I)

- P222** Yoko Mikami
Clinical Parameters Associated with Myocardial Hemorrhage in Reperfused Acute Myocardial Infarction — A Cardiovascular MR Study
- P223** Khaled Abd-Elmoniem
Coronary Vessel Wall Thickening in Asymptomatic Young HIV-Infected Patients vs. Controls Using Phase-Sensitive Dual Inversion Recovery (PS-DIR) MRI
- P224** Kim Connelly
Failure to Successfully Open a Chronic Total Coronary Occlusion is Associated with Preserved Global, but Impaired Regional Myocardial Function
- P225** Sebastian Kelle
Correlation of Simultaneous Measurements of Coronary, Carotid and Aortic Distensibility and Vessel Wall Ratio as Evaluated by Cardiovascular Magnetic Resonance in Patients with Type 2 Diabetes Mellitus
- P226** Johan Kihlberg
Practical Application of DENSE in Ischemic Heart Disease
- P227** Lubna Bhatti
Rate Of Acute Myocardial Infarction in Patients with Troponin-Positive Chest Pain and Unobstructed Coronary Arteries

Vascular MRI (Poster Session II)

- P228** Sreekanth Vemulapalli
The Ferumoxytol in Renal Insufficiency Study (FIRST)
- P229** Ben Corden
Obesity has Divergent Effects on Aortic Stiffness in Young And Old Adults
- P230** Zoubir Bensalah
Ascending Aorta Backward Flow Parameters Estimated from Phase-Contrast Cardiovascular Magnetic Resonance: New Indices of Vascular Aging
- P231** Hongjiang Wei
In Vivo Cardiac Diffusion Tensor Imaging in Free-Breathing Conditions
- P232** Monica Sigovan
Improved Quantification of Abnormal Aortic Flow in 3D Compared to Standard 2D Approach
- P233** Yibin Xie
Free-breathing Non-contrast MRA with Efficiency-adaptive Self Navigation
- P234** Jiming Zhang
A Systematic Evaluation of Left Ventricular (LV) Models for Estimating LV Volumes in Children Using Cardiac Cine (MRI)
- P235** Gerd Brunner
Assessment of Leg Muscle Morphology by Contrast-Enhanced Magnetic Resonance Imaging (CE-MRI) in Patients with Peripheral Arterial Disease
- P236** Eleanore Kroner
Coupling between Regional Aortic Pulse Wave Velocity and Luminal Diameters in Patients with Thoracic Aortic Aneurysm: Initial Results from the ACTA Study
- P237** Meihan Wang
DANTE Preparation for Black-blood Coronary Wall Imaging
- P238** Michael Hall
Chronic Furosemide Administration Blunts Renal BOLD Magnetic Resonance Response to an Acute Furosemide Stimulus in Patients Being Evaluated for Renal Artery Revascularization
- P239** Laura Ellwein
Quantification of Thoracic Aorta Blood Flow by Magnetic Resonance Imaging during Supine Cycling Exercise of Increasing Intensity
- P240** Anirudh Damughatla
MR Elastography as a Method to Estimate Aortic Stiffness and Its Comparison against MR Based Pulse Wave Velocity Measurement

- P241** *Julio Garcia* 4D Flow Jet Shear Layer Detection Method for the Measurement of Effective Orifice Area and Assessment of Aortic Stenosis Severity
- P242** *Petter Dyverfeldt* Motion Compensated Carotid MRI using FID Navigators
- P243** *Alex Pitcher* Towards a Comprehensive Description of Relative Aortic Pressure: Insights from 4D Flow CMR
- P244** *Hongjiang Wei* Quantitative Investigation of Cardiac Motion Effects on In Vivo Diffusion Tensor Parameters: A Simulation Study
- P245** *Florian von Knobelsdorff-Brenkenhoff* Type of Aortic Valve Replacement Influences Ascending Aortic Flow Characteristics - A Pilot Study Using 4D Flow MRI
- P246** *Zhaoyang Fan* Black-Blood Dynamic Contrast-Enhanced Carotid Artery Wall MRI with SRDIR Preparation
- P247** *Harrie van den Bosch* Site-specific Coupling between Aortic Pulse Wave Velocity, Carotid Vessel Wall Thickness and Peripheral Stenosis Severity in Peripheral Arterial Occlusive Disease at 3T MRI
- P248** *Eleanore Kroner* Leveling of Arterial Wall Stiffness Between Aortic Arch and Left Carotid Artery due to Aging is Associated with Reduced Volume Flow towards the Brain: Pulse Wave Velocity Evaluation with High-Field Velocity-Encoded MRI
- P249** *Henrik Haraldsson* MRI Evaluation of Vessel Wall Stretch in Healthy and Diseased Aortas
- P250** *Eric Schrauben* 3D Respiratory Resolved Phase Contrast Imaging of the Aorta

Clinical Outcome and Prognosis (Poster Session I)

- P251** *Thomas Treibel* Diffuse Interstitial Fibrosis in well-controlled Hypertension
- P252** *Deborah Kwon* Impact of Right Ventricular End Systolic Volume and Mitral Regurgitation on Survival in Patients with Severe Ischemic Cardiomyopathy
- P253** *Ingo Eitel* Prognostic Significance of Papillary Muscle Infarction Detected by Late Gadolinium-Enhanced MRI in Acute Reperfused ST-Segment Elevation Myocardial Infarction
- P254** *Umesh Sharma* Cardiac MRI Identifies the Possible Cause of Sudden Cardiac Arrest in more than 50% of Resuscitated Patients
- P255** *Yasuyuki Shiraishi* Prognostic Significance of Coronary Flow Reserve Assessed by MR Flow Measurement in the Coronary Sinus in Patients with Hypertrophic Cardiomyopathy
- P256** *Michael Chuang* Normal Reference Values for Thoracic and Abdominal Aorta and Main Pulmonary Artery Dimensions by Cardiovascular Magnetic Resonance: The Framingham Heart Study
- P257** *David Ripley* Prognosis of Anomalous Coronary Arteries Originating from the Opposite Sinus of Valsalva (ACAOS): 15 Year Experience from Two Large CMR Centres
- P258** *Isabelle Roussin* Can the Outcome of Post Partum Cardiomyopathy Be Predicted Using Late Gadolinium Enhancement CMR?
- P259** *Hoshang Farhad* The Incidence and Prognostic value of Silent Myocardial Scar by Late Gadolinium Enhancement in Patients with Atrial Fibrillation
- P260** *Maria Fernanda Braggion Santos* Influence of Presence and Patterns of Late Gadolinium Enhancement on Left Ventricular Remodeling after Heart Transplantation
- P261** *Jacob Fluckiger* Quantification of Left Atrial Flow Velocity Distribution in Atrial Fibrillation Using 4D Flow MRI
- P262** *Peter Bernhardt* Adenosine Perfusion Cardiac Magnetic Resonance Imaging for Risk Stratification in Patients with Stable Coronary Artery Disease – A Long-Term Prospective Study in a Large Consecutive Cohort
- P263** *Robert Biederman* RV Fibrosis in Pulmonary Hypertension Impact on Prognosis; Does Formal Quantitation Augment Prognosis?
- P264** *Michael Chuang* Association of Age with Left Ventricular Volumes, Ejection Fraction and Concentricity: The Framingham Heart Study
- P265** *Maria Fernanda Braggion Santos* Cardiac Magnetic Resonance Imaging for Noninvasive Assessment of Cardiac Allograft During the Follow-up of Patients after Heart Transplantation
- P266** *Masamichi Imai* Association between Left Atrial Function using Multimodality Tissue Tracking from Cine MRI and Myocardial Scar in the Multi-Ethnic Study of Atherosclerosis (MESA)
- P267** *Wieland Staab* Prevalence and Clinical Relevance of Extra-Cardiac Findings at Cardiac Magnetic Resonance Imaging
- P268** *Gültekin Karakus* Epicardial Fat Volume is Inversely Correlated with the Degree of Diastolic Dysfunction and Outcome in Patients with Heart Failure with Preserved Ejection Fraction
- P269** *Sathya Vijayakumar* Dependence of Image Quality of LGE-MRI of the Left Atrium on the Acceptance Rate of Respiratory Navigator and Acquisition Time
- P270** *Neha Sekhri* Clinical Utilisation of Adenosine Stress CMR and Its Influence on Patient Management in a Tertiary Cardiac Centre
- P271** *Rosica Panayotova* No Late Effects of Growth Hormone Exposure on Ventricular Mass and Function in Patients with Turner's Syndrome
- P272** *Gareth Crouch* Quantitative Analysis of Paravalvular Leak of Transcatheter Aortic Valves Using Cardiac MR
- P273** *Mark Doyle* Does Expanded Artificial Intelligence Improve the Prognostic Value of Myocardial Perfusion Imaging? A Report from the NHLBI-Sponsored Women's Ischemia Syndrome Evaluation (WISE)
- P274** *Jason Lamanna* Epicardial Adipose Tissue Measured by Magnetic Resonance Imaging Predicts Abnormal Adenosine Stress Cardiovascular Magnetic Resonance Imaging and Future Adverse Cardiovascular Events
- P275** *June Yamrozik* Imaging the PM/AICD Patient; A Neuro-Cardiac Efficacy Study
- P276** *Paul Kotwinski* CMR Shows that Anthracycline Cardiotoxicity is Common in Women Treated for Early Breast Cancer and Associated with Undiagnosed Hypertension; But Cannot be Reliably Detected Using Late-Gadolinium Enhancement Imaging

- P277** Yang Chul Boering Analysis of Cyclic Deformation of the Aortic Annulus by Cine-MRI
- P278** Gareth Crouch Early Right Ventricular Dysfunction After Transcatheter Aortic Valve Replacement (TAVI): A Prospective Cardiac Magnetic Resonance Study of Open versus Transcatheter Aortic Valve Replacement
- P279** Maria Fernanda Braggion Santos Increase of Myocardial Infarctions Over the Years After Heart Transplantation Detected by Late Gadolinium Enhanced MRI
- P280** Karima Addetia Designing Pulmonary Arterial Hypertension Trials for Detecting Change in Right Ventricular Function Using Cardiovascular Magnetic Resonance: What is the Appropriate Sample Size?

Congenital Heart Disease (Poster Session II)

- P281** Sujatha Buddhé Progression of Right Ventricular Dilation in Repaired Tetralogy of Fallot
- P282** Laetitia Vanhoutte Intra-observer, Inter-Experiment and Inter-Observer Variability of Left Ventricular Volumes and Mass Measurements in Mice using An 11.7 Tesla MRI
- P283** Andrew Rivard Process Improvement Decreases No Show Rates for Pediatric Cardiac MR Imaging with Anesthesia
- P284** Sarah Khan CEMRA in Neonatal and Pediatric Congenital Vascular Diseases at 1.5T and 3.0T: Comparison of an Intravascular Contrast Agent (Gadofosveset) with an Extracellular Agent (Gadopentetate Dimeglumine)
- P285** Venkateshwar Polsani Prevalence of Partial Anomalous Pulmonary Venous Connection in Adult Patients Undergoing Cardiac Magnetic Resonance for Evaluation of Atrial Septal Defect
- P286** Arun Natarajan Cine Acquisition Strategies for Visualizing Atrial Septal Defects by CMR
- P287** Tim Slesnick Heterogeneity in Myocardial Iron Content in Pediatric and Young Adult Patients
- P288** Sigurdur Stephensen Contribution of Atrioventricular Plane Displacement to Left and Right Ventricular Stroke Volume in Healthy Subjects and Patients with Pulmonary Regurgitation
- P289** Alan Groves Analysis of Neonatal Cardiac Function in Infants with and without Patent Ductus Arteriosus
- P290** Mahesh Kappanayil Initial Experience with a Dedicated Cardiac MRI program for Congenital Heart Disease in a Limited Resource Environment
- P291** Hopewell Ntsinjana Abnormalities in Aortic Arch Geometry Do Not Lead to Reduced Exercise Performance: A Comparison Study Between Patients with Transposition of the Great Arteries Repaired by Arterial Switch Operation and Normal Controls
- P292** Lay Koon Tan Correlation between Congenital Bicuspid Aortic Valve Morphology with Thoracic Aortic Dimensions - A retrospective analysis with Cardiovascular Magnetic Resonance
- P293** Giovanni Biglino Use of CMR-Based Wave Intensity Analysis to Demonstrate Abnormalities in the Aorta, the Ventricle and Ventriculo-Arterial Coupling: Comparison Between Patients with Complete Transposition of the Great Arteries (TGA), Following Palliation with Atrial Switch and Arterial Switch Operations, and Normals
- P294** Anna Finnemore Validation of MRI Quantification of Biventricular Cardiac Function in Term and Preterm Neonates
- P295** Edythe Tham Which MRI Sequence Provides the Most Accurate Estimate of Branch Pulmonary Artery Size in Children With Single Ventricle?
- P296** Laura Olivieri Shunt and Right Ventricular Structural Findings in Isolated Anomalous Pulmonary Venous Return in Turner Syndrome
- P297** Shafkat Anwar Feature Tracking Strain is a Promising Functional Analysis Technique in Single Ventricle Patients
- P298** Michael Campbell Adenosine Stress Perfusion CMR in Young Children: Assessment of Optimal Imaging Parameters
- P299** Laura Jimenez Juan Relationship Between Cardiac Magnetic Resonance Imaging Parameters and Pregnancy Outcomes in Women Post Mustard Repair: A Multi-center Study
- P300** Bradley Allen Aortic Coarctation Augments Changes in Thoracic Aortic Hemodynamics in Pediatric and Young Adult Patients with Bicuspid Aortic Valve

ePosters

SCMR is introducing an ePoster Gallery during the 2013 Scientific Sessions. Authors will be available at their ePoster during the following days/times:

Friday, February 2, 2013

Basic Translational – New Techniques Ready for Clinical Application (E1-E22)

High Output - Efficient Clinical Imaging (E23-E24)

Basic Translational – Post-Processing (E25-E36)

Clinical Outcome and Prognosis (E37-E40)

Basic Translational – Pre-clinical Validation of an Existing Technique (E41-E52)

Physiology and Metabolism including Spectroscopy (E53)

Systemic Disease, Metabolism, and Endothelium (E54-E56)

CAD Ischemia and Viability (E57-E64)

CAD Other (E65-E69)

Cost Effectiveness and Comparison to Other Modalities (E70-E76)

Vascular MRI (E77-E84)

Basic Translational – New Techniques Ready for Clinical Application

E1	Ethan Rowin	The Necessity for Full Ventricular Coverage with Noncontrast T1 Mapping in Hypertrophic Cardiomyopathy
E2	Antonio de Marvao	The UK GenScan study – Population-based Imaging Genetics Research Using 3D Cardiac Magnetic Resonance
E3	Meral Reyhan	Intra- and Inter-exam Reproducibility of Left Ventricular Twist Measurements using Fourier Analysis of STimulated Echoes (FAST)
E4	Britta Butzbach	Interleaved T2 Preparation For Simultaneous Coronary Artery and Pulmonary Artery And Vein Visualization
E5	Qi Yang	Assessment of Coronary Artery Disease Using 3.0T Magnetic Resonance Coronary Angiography: A National Multicenter Trial
E6	Laurent Macron	Intraventricular Ejection Pressure Gradient Derived from Acceleration Measurement by Phase Contrast CMR as a New Marker of Left Ventricular Contractility: Feasibility Study And Preliminary Results In Dilated Cardiomyopathy
E7	Octavia Bane	A Pilot Study of Leakage and Compartmentalization of the Contrast Agent Ablavar
E8	Iain Pierce	Late Gadolinium Enhancement Imaging using Spiral Readouts at 3T
E9	Markus Henningsson	Fat Suppression for Coronary MR Angiography at 3T: 2 Point Dixon versus Spectral Presaturation with Inversion Recovery (SPIR)
E10	Sébastien Roujol	Low Latency Iterative Reconstruction of First Pass Stress Cardiac Perfusion with Physiological Stress using Graphical Processing Unit
E11	Sahar Soleimanifard	Single Breathhold 3D Balanced SSFP Coronary MRA at 3.0T: A Reproducibility Study
E12	Yang Yang	Quantification of Myocardial Perfusion with Spiral Pulse Sequences
E13	Andreas Schuster	The Intra-Observer Reproducibility of Cardiovascular Magnetic Resonance Myocardial Feature Tracking Strain Assessment is Independent of Field Strength
E14	Abbas Moghaddam	Compressed Sensing Cardiac MRI Exploiting Spatio-Temporal Sparsity
E15	Nadine Kawel	Effect of Protein Binding Substances on T1 Times and the Partition Coefficient in Contrast-Enhanced Cardiac Magnetic Resonance Imaging
E16	Xiao Chen	Accelerated First-pass Perfusion CMR using Compressed Sensing with Regional Spatiotemporal Sparsity
E17	Jan Sohns	Real-Time Cardiac Phase Contrast MRI Blood Flow Including Valsalva and Mueller Maneuver. Initial Experiences.
E18	Valentina Puntmann	Are T1 Values to Characterize Myocardial Tissue Equivalent between Various Sequences: Comparison of MOLLI, shMOLLI, 3'5-MOLLI and SASHA
E19	Andreas Schuster	A Quantitative High Resolution Assessment of Myocardial Blood Flow from Contrast-Enhanced First-Pass Magnetic Resonance Perfusion Imaging: Microsphere Validation in a Magnetic Resonance Compatible Free Beating Explanted Pig Heart Model
E20	Mehmet Akcakaya	Comparison of Respiratory Navigator Techniques for Interleaved High-Resolution Coronary Vessel Wall Imaging
E21	Shigehide Kuhara	Automatic Motion Probe Setting Assist System for Cardiac Magnetic Resonance Imaging
E22	Melanie Jones	Establishing a Hybrid System for Cardiac Patients –Developments and Safety Issues

High Output - Efficient Clinical Imaging

E23	Santanu Biswas	Comparison of Two Methods of Right Atrial Volume Assessment Using Cardiac Magnetic Resonance Imaging: Area-Length Method versus Multislice Volumetric Method
E24	Susan Thomas	The Need for Speed - Adenosine Stress MRI in Less than 30 Minutes

Basic Translational – Post-processing

E25	Antonella Meloni	Aortic Pulse Wave Velocity Assessment in CMR: A Novel Method for Transit Time Estimation
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E26	Frank Ong	Improved Visualization and Quantification of 4D Flow Data Using Divergence-Free Wavelets
E27	Johannes Toger	Vortex Ring Mixing in the Left Ventricle of the Human Heart
E28	Nicole Seiberlich	Self-Calibrating Through-Time Spiral GRAPPA for Real-Time CMR
E29	Rob van der Geest	Objective Method for Assessment of Reliability of Particle Tracing Visualization in 4D FLOW MRI
E30	Jane Tufvesson	Validation of an Algorithm for Left Ventricular Segmentation in 150 Patients Shows Potential for Further Development towards Fully Automatic Segmentation
E31	Antonella Meloni	An Automatic Method for Myocardial T2* Curve Fitting in Thalassemia Patients with Severe Iron Overload
E32	Vicky Wang	Investigating Heart Failure Mechanics Using Personalised Human Biophysical Models
E33	Shah Azarisman	Tissue Injury Characterization by Pre-Contrast T1 Mapping Post Myocardial Infarction
E34	Dana Peters	Cardiac Cine with ART for Radial Parallel Imaging Reconstruction
E35	Prahlad Menon	Automated 3D Morphometric Difference Biomarker for Abnormal Ventricular Morphology
E36	Malenka Bissell	Evaluation of Circulation, λ , as a Quantifying Metric in 4D Flow MRI

Clinical Outcome and Prognosis

E37	Sebastian Kelle	Correlation Between Progression of Left Ventricular Mass and Atherosclerosis of Carotid and Coronary Arteries in Patients with Type 2 Diabetes Mellitus under Optimal Medical Treatment: A Long-term CMR Study
E38	Michael Salerno	Stress Cardiac MRI Provides Excellent Prognostic Risk Stratification in Coronary Artery Disease: A Systematic Review of the Literature
E39	Sebastian Gruenig	Left Ventricular Remodeling After Transcatheter Aortic Valve Implantation (TAVI)
E40	Usha Manian	Predictors of Response to Cardiac Resynchronization Therapy on Pre-Implantation Cardiovascular Magnetic Resonance Imaging

Basic Translational – Pre-clinical Validation of an Existing Technique

E41	Katharina Strach	Cardiac Magnetic Resonance Imaging using an Open 1.0T MR Platform: A Comparative Study with 1.5T
E42	Robin Simpson	Reproducibility of Peak and Time to Peak Velocity Measurements with a High Resolution Spiral Phase Velocity Mapping (PVM) Sequence
E43	Hazel Rovno	Regional Variations in T1 in the Healthy Left Ventricle
E44	Nadjia Kachenoura	Assessment of Myocardial and LV Blood Pool Post-Contrast T1 Evolution: Comparison between Healthy Subjects and Patients with Hypertrophic Cardiomyopathy
E45	Christos Xanthis	A High Performance Parallelizable MRI Physics Simulator with Graphic Processing Unit Technology
E46	Jonas Lantz	Validation of Turbulent Kinetic Energy in an Aortic Coarctation Before and After Intervention – MRI vs. CFD
E47	Parag Amin	Assessment of Diastolic Dysfunction in the Transplanted Heart with Analysis of Pixel-Based Deformation Fields on CMR
E48	Abbas Moghaddam	Twist Measurement of the Left Ventricle through Radial Tagging
E49	Yi Wang	Preliminary Quantitative Myocardial Perfusion in Response to Cold Pressor Test in Normals
E50	Anne Yoon Krogh Grøndal	Dual Inversion Recovery Late Gadolinium Enhancement for More Accurate Infarct Size Determination: a Histological Validation Study
E51	Sebastian Buss	Feature Tracking in Cardiac Magnetic Resonance Imaging to Evaluate Normal Myocardial Function
E52	Panki Kim	A Fat Suppressed Adiabatic T2-Preparation Module For 3T

Physiology and Metabolism including Spectroscopy

E53	Shahryar Saba	Cardiac MRI Correlates of Diastolic Left Ventricular Function Assessment by Echocardiography
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Systemic Disease, Metabolism, and Endothelium

E54	Murilo Foppa	Subcutaneous Fat Thickness, but not Epicardial Fat Thickness, Parallel Weight Reduction after Bariatric Surgery: A Cardiac Magnetic Resonance Study
E55	Mahvesh Javaid	Cardiac Magnetic Resonance Myocardial Feature-Tracking: The Effect of Treatment in Patients with Adult-Onset Growth Hormone Deficiency and Acromegaly
E56	Ntobeko Ntusi	Patients with Systemic Lupus Erythematosus have Impaired Strain and Vascular Function Which is Incremental to that Caused by Traditional Risk Factors: Insights from Cardiovascular Magnetic Resonance

CAD Ischemia and Viability

E57	Nuno Bettencourt	Incremental Value of Cardiac Magnetic Resonance with Adenosine Stress Perfusion in Coronary Artery Disease Detection
E58	Lorenzo Monti	Usefulness of Semi-Quantification of Ischemic Myocardium after Adenosine Stress Magnetic Resonance

E59	Thomas Hucko	Cardiovascular Magnetic Resonance Stress Perfusion Imaging in Patients with Atrial Fibrillation
E60	Eva Sammut	Feasibility of Quantitative Perfusion CMR in Patients with Poor Left Ventricular Function
E61	Ryuzo Nawada	Diagnostic Value of 3T Whole Heart Coronary Magnetic Resonance Angiography (MRA) without Contrast Medium
E62	Gurjit Singh	Does Presence of R Wave Forces on Surface Electrocardiogram Predict Myocardial Viability In Patients with Coronary Disease and Left Ventricular Dysfunction? Correlation With Cardiac MRI
E63	Jamal Khan	Prevalence and Extent of Infarct and Microvascular Obstruction following a Range of Reperfusion Techniques in ST-Elevation Myocardial Infarction
E64	Mahesha Bannur	To Detect Myocardial Ischemic Zones on CMR in Relation to Degree of Coronary Artery Stenosis and to Correlate with Major Adverse Cardiac Events in 9 Month Follow Up Period

CAD Other

E65	Jianing Pang	Motion Corrected Sensitivity Encoded Isotropic Projection Reconstruction (SNIPR) for Whole-Heart Coronary MRA
E66	Thomas Walcher	T2-Prepared Steady-State Free-Precession for Detection of Hemodynamic Significance of Coronary Artery Stenosis - A Comparison to Fractional Flow Reserve
E67	Daniel Swarbrick	Diagnostic Yield of Early versus Late Outpatient Cardiac MRI in Suspected Acute Coronary Syndrome in Patients with Normal Coronary Arteries
E68	Susie Parnham	Myocardial Perfusion is Impaired in Asymptomatic Patients Post Renal Transplantation
E69	Abdulghani Larghat	Epicardial Left Ventricular Myocardial Rotation Correlates with Resting Myocardial Blood Flow in Type 2 Diabetes Mellitus Patients with Angiographically Normal Coronary Arteries

Cost Effectiveness and Comparison to Other Modalities

E70	Caroline Jaarsma	Comparison Of Different Electrocardiographic Criteria for the Detection of Previous Myocardial Infarction in Relation to Infarct Characteristics as Assessed with Cardiovascular Magnetic Resonance Imaging
E71	Eugene Won	Diagnostic Accuracy of Different CMR Techniques in the Evaluation of Ischemic Cardiomyopathy
E72	Mark Peterzan	A Retrospective Audit of Whether Patients Undergoing Myocardial Perfusion Scintigraphy (MPS) are Suitable for Stress Cardiac Magnetic Resonance Imaging (CMR)
E73	Florian Andre	Comparison of Cardiovascular Magnetic Resonance with Real-Time Three-Dimensional Echocardiography and the Right Ventricular Automated Systolic Index in the Assessment of the Right Ventricular Function
E74	Florian Andre	Comparison of Parameters for Left Ventricular Volumes and Function between Echocardiography and Cardiovascular Magnetic Resonance in a Large Group of Cardiac Patients
E75	Bharath Ambale Venkatesh	Strain Relaxation Index and Diastolic Function from Echocardiography: The Multi-Ethnic Study of Atherosclerosis
E76	Steffen Petersen	Quality of Reporting in Cardiac MRI, CT and SPECT Diagnostic Accuracy Studies: Analysis of the Impact of STARD Criteria

Vascular MRI

E77	Anne Davis	Diameters of the Normal Thoracic Aorta Measured by Cardiovascular Magnetic Resonance Imaging: Correlation with Gender, Body Surface Area and Body Mass Index
E78	Hadas Shiran	Aortic Wall Gadolinium Enhancement in Thoracic Aortic Aneurysm Patients
E79	Jinnan Wang	Simultaneous Intracranial Angiography and Intraplaque Hemorrhage Imaging using SNAP
E80	Emmanuelle Vermes	Accuracy of a New Method for Semi-quantitative Assessment of Right Ventricular Ejection Fraction by Cardiac MRI: Right Ventricular Fractional Diameter Changes.
E81	Ruth Lim	Comparison of Blood Pool and Extracellular Gadolinium Contrast for Functional MR Evaluation of Vascular Thoracic Outlet Syndrome
E82	Stanislas Rapacchi	High Spatial and Temporal Resolution Dynamic Contrast-Enhanced Magnetic Resonance Angiography (CE-MRA) using Compressed Sensing with Magnitude Image Subtraction
E83	Valentina Puntmann	Gender Differences in Pulse Wave Velocity in Young Healthy Adults at Rest And Exercise - The Wellheart Study
E84	Ruth Lim	Highly Accelerated Single Breath-hold Non-contrast Thoracic MRA: Evaluation in a Clinical Population

Congenital Heart Disease

E85	Jimmy Lu	Right Ventricular Free Wall Strain Predicts Quality of Life in Repaired Tetralogy of Fallot
E86	Aurelio Secinaro	Cardiovascular Magnetic Resonance in Patients with Repaired Tetralogy of Fallot: The Goal Standard in Preoperative Assessment and Follow Up of Injectable Pulmonary Valve Implantation
E87	Lay Koon Tan	Progression of Ascending Aortic Dilatation in Congenital Bicuspid Aortic Valve as Characterised by Cardiovascular Magnetic Resonance
E88	Kelly Jarvis	In Vivo Quantification of Blood Mixing in Single Ventricle Patients with Fontan Circulation using 4D Flow MRI
E89	Ryan Moore	Assessment of Strain and Mechanical Dyssynchrony Indices in Single Ventricle Populations by Cardiac Magnetic Resonance Feature-Tracking Techniques

- E90** *Maya Gabbour* Comparison of 4D Flow and 2D PC MRI Blood Flow Quantification in Children and Young Adults with Congenital Heart Disease
- E91** *Michael Steinmetz* Right Atrial Volume and Body Mass Index in Corrected Tetralogy of Fallot Correlate with the Incidence of Supraventricular Arrhythmia – An MRI Study.
- E92** *Zili Chu* Pulse Wave Velocity Measurement in the Aorta: Comparison of Pediatric Patients with Single Right Ventricle and Normal Controls
- E93** *Beatrice Bonello* Implication of Atrial Size and Function in Adults with Repaired Tetralogy of Fallot and the Effect of Treatment by Ramipril: The APPROPRIATE Randomised Trial

EP and Interventional Applications

- E94** *Sébastien Roujol* Feasibility of Real Time Integration of High-Resolution Scar Images with Invasive Electrograms in Electro-Anatomical Mapping system In Patients undergoing Ventricular Tachycardia Ablation
- E95** *James Harrison* Prediction of Gaps in Atrial Ablation Lesion Sets by Late Gadolinium Enhancement Magnetic Resonance Imaging
- E96** *Konrad Werys* CINE-MRI to Study the Progress of Disease in a Chronic Atrial Fibrillation Goat Model
- E97** *Atif Bashir* Left Atrial Volume Assessment by Area-Length Method Compared to Multislice Volumetric Method Using Cardiovascular Magnetic Resonance Imaging
- E98** *Lay Koon Tan* Cardiovascular Magnetic Resonance Assessment of Left Atrial Volumes and Function in Patients with Persistent Atrial Fibrillation Before and After Ablation Therapy

Non-ischemic Heart Disease – Other

- E99** *Joachim Lotz* High Resolution Real-Time CMR of Function and Flow: Initial Clinical Results
- E100** *Lauren Simprini* Routine Cine-CMR for Assessment of Prosthesis-Associated Mitral Regurgitation – A Multicenter, Multivendor Study
- E101** *Ulf Radunski* Increased Extracellular Volume in Asymptomatic Cocaine Abusers Detected by Cardiovascular Magnetic Resonance Imaging
- E102** *Ines Garcia-Lunar* Myocardial Fibrosis with T1 Mapping and Right Ventricular Performance in Pulmonary Hypertension
- E103** *Ria Mazumder* Diffusion Tensor Imaging of Formalin Fixed Infarcted Porcine Hearts
- E104** *Ian Chang* Magnetic Resonance Imaging of Cardiac Tumors: Experience of a Tertiary Medical Center
- E105** *Takashi Tanimoto* The Measurement of Stroke Volume by Cine Magnetic Resonance Imaging and Phase Contrast Velocity Mapping
- E106** *Antonella Meloni* Myocardial Iron Overload in Sickle/Thalassemia Patients of Italian Origin
- E107** *J. Ronald Mikolich* Left Ventricular Hypertrophy: Is It Really?
- E108** *Sebastian Kelle* Renal Denervation Reduces Left Ventricular Mass in Patients with Resistant Hypertension – Results from a Multicenter CMR-Study
- E109** *Sung Min Ko* Significance of Myocardial Fibrosis on Cardiac Function and Morphology in Severe Aortic Stenosis
- E110** *Jonas Doerner* Comparison of Feature Tracking with Harmonic Phase Imaging Analysis for the Assessment of Diastolic Dysfunction
- E111** *Florian Andre* Comparison of the Amount of Affected Myocardium Quantified by Late Gadolinium Enhancement and the Degree of Myocardial Necrosis Measured by Cardiac Troponin T in Patients with Myocarditis

Non-ischemic Heart Disease – Primary and Secondary CMP

- E112** *Katrin Scherer* Non-invasive Risk Stratification of Patients with TTR Amyloidosis
- E113** *Fabian aus dem Siepen* Non-invasive Measurement of Myocardial Extracellular Volume Using T1 Mapping as a Novel Biomarker of Diffuse Fibrosis in Dilated Cardiomyopathy
- E114** *Jakub Zajac* Turbulent Kinetic Energy from CMR Identifies Disturbed Diastolic Flow in Myopathic Left Ventricles
- E115** *Florian Andre* Reference Values for Right Atrial and Right Ventricular Morphology and Function Using Cardiovascular Magnetic Resonance Imaging
- E116** *Andrea Barison* Myocardial Strain In A Health And Disease: CMR Feature Tracking Analysis In Cardiac Hypertrophy
- E117** *Luigi Natale* The Impact of New Proposed Arrhythmogenic Right Ventricular Cardiomyopathy (ARVC) Criteria on CMR Diagnosis
- E118** *Frank Gommans* The Extent of Late Gadolinium Enhancement Can Be Assessed Fast and Reproducible Using a Semi-Quantitative Method in Patients with Hypertrophic Cardiomyopathy
- E119** *Ian Stone* Cardiac Magnetic Resonance Myocardial Feature Tracking: Feasibility For Use In Left Ventricular Non-Compaction
- E120** *Florian Andre* Right Ventricular Function in Dilated Cardiomyopathy: Relation to Location of Focal Myocardial Fibrosis
- E121** *Daniel Lee* Assessment of Diffuse Myocardial Fibrosis in Systemic Sclerosis by Cardiac Magnetic Resonance Imaging
- E122** *Laurent Macron* Global Circumferential Left Ventricular Strain impairment in Hypertrophic Cardiomyopathy: Comparison to Left Ventricular Hypertrophy and Late Gadolinium Enhancement
- E123** *Tessa Cook* Wisdom before Knowledge–Appraisal of the Scientific Evidence used to Develop Guidelines for the Diagnosis of Arrhythmogenic Right Ventricular Dysplasia
- E124** *Zoubir Bensalah* Aortic Arch Stiffness In Fabry Disease

Friday, February 1, 2013

	Station 1 - Basic Translational - New Techniques Ready for Clinical Application (E1-8); Vascular MRI (E79-84) Station 2 - Basic Translational - New Techniques Ready for Clinical Application (E9-16) Station 3 - Basic Translational - New Techniques Ready for Clinical Application (E17-22); High Output - Efficient Clinical Imaging (E23-24) Station 4 - Basic Translational - Post-Processing (E25-32) Station 5 - Basic Translational - Post-Processing (E33-36); Clinical Outcomes and Prognosis (E37-38) Station 6 - Basic Translational - Pre-clinical Validation of an Existing Technique (E41-48) Station 7 - Basic Translational - Pre-Clinical Validation Physiology and Metabolism including Spectroscopy, Systemic Disease, Metabolism, and Endothelium (E49-52) Station 8 - CAD Ischemia and Viability (E53-56) Station 9 - CAD Other (E57-59); Cost Effectiveness and Comparison to Other Modalities (E60-64) Station 10 - Cost Effectiveness and Comparison to Other Modalities (E65-69); Vascular MRI (E70-78)									
10:00 AM	E 1	E 9	E 17	E 25	E 33	E 41	E 49	E 57	E 65	E 73
10:15 AM	E 2	E 10	E 18	E 26	E 34	E 42	E 50	E 58	E 66	E 74
12:30 PM	E 3	E 11	E 19	E 27	E 35	E 43	E 51	E 59	E 67	E 75
12:45 PM	E 4	E 12	E 20	E 28	E 36	E 44	E 52	E 60	E 68	E 76
1:00 PM	E 5	E 13	E 21	E 29	E 37	E 45	E 53	E 61	E 69	E 77
1:15 PM	E 6	E 14	E 22	E 30	E 38	E 46	E 54	E 62	E 70	E 78
3:00 PM	E 7	E 15	E 23	E 31	E 39	E 47	E 55	E 63	E 71	E 79
3:15 PM	E 8	E 16	E 24	E 32	E 40	E 48	E 56	E 64	E 72	E 80
6:30 PM	E 81									
6:45 PM	E 82									
7:00 PM	E 83									
7:15 PM	E 84									

Saturday, February 2, 2013

	Station 1 - Congenital Heart Disease (E85-88) Station 2 - Congenital Heart Disease (E89-93) Station 3 - Congenital Heart Disease (E94-96); EP and Interventional Applications (E97-98) Station 4 - EP and Interventional Applications (E97-98); Non-ischemic Heart Disease Other (E99-100) Station 5 - Non-ischemic Heart Disease Other (E101-104) Station 6 - Non-ischemic Heart Disease Other (E105-108) Station 7 - Non-ischemic Heart Disease Other (E109-111); Non-ischemic Heart Disease - Primary and Secondary CMP (E112) Station 8 - Non-ischemic Heart Disease - Primary and Secondary CMP (E113-116) Station 9 - Non-ischemic Heart Disease - Primary and Secondary CMP (E117-120) Station 10 - Non-ischemic Heart Disease - Primary and Secondary CMP (E121-124)									
9:30 AM	E 85	E 89	E 93	E 97	E 101	E 105	E 109	E 113	E 117	E 121
9:45 AM	E 86	E 90	E 94	E 98	E 102	E 106	E 110	E 114	E 118	E 122
2:00 PM	E 87	E 91	E 95	E 99	E 103	E 107	E 111	E 115	E 119	E 123
2:15 PM	E 88	E 92	E 96	E 100	E 104	E 108	E 112	E 116	E 120	E 124

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Web: www.gehealthcare.com

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5003 Southpark Drive, Suite 140
Durham, NC 27713-9414
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Fax: 866-457-3694
Web: www.heartit.com

Heart IT® is a global leader in the medical imaging industry. Their flagship product, WebPAX® was the first FDA approved zero-footprint medical imaging workstation. WebPAX® has received 6 patents for its unique technology allowing physicians to view, report, and search diagnostic-quality medical images on any computer including mobile devices. Used clinically and for research by more than 5,000 physicians at 250 medical centers and leading academic institutions such as Johns Hopkins, Duke, Cornell and Ohio State.

Booth 5

Booth 9

Booth 26

Booth 7

Intersocietal Accreditation Commission (IAC)

6021 University Blvd., Ste. 500
Ellicott City, MD 21043
Tel: 800-838-2110
Fax: 800-581-7889
Email: accreditation@intersocietal.org
Web: www.intersocietal.org

The Intersocietal Accreditation Commission (IAC) provides accreditation for Vascular Testing; Echocardiography; Nuclear/PET; MRI; CT (including Dental); and Carotid Stenting. A new program for vein centers will become available within 2013. Stop by the IAC booth or visit intersocietal.org for details highlighting IAC's new programs and services that maintain our incredibly high standards – focused on quality patient care – while improving the experience for you. It's a whole new day for accreditation and IAC is leading the way!

You may visit www.intersocietal.org or call 800-838-2110 for more information. Stop by the IAC booth to learn more about payment policies linking reimbursement to accreditation.

The International Society for Magnetic Resonance in Medicine (ISMRM)

2030 Addison Street Suite 700
Berkeley, CA 94704
Tel: 510-841-1899
Fax: 510-841-2340
Email: info@ismrm.org
Web: www.ismrm.org

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

Journal of Cardiovascular Magnetic Resonance (JCMR)

Cardiovascular MR Unit
Royal Brompton Hospital
Sydney Street
London, SW3 6NP
United Kingdom
Tel: +44 207-351-8825
Fax: +44 207-351-8816
Email: jcmr@imperial.ac.uk
Web: www.jcmr-online.com

JCMR, the official journal of the Society for Cardiovascular MR, is an open access, online journal that publishes articles on all aspects of basic and clinical research on the design, development, manufacture, and evaluation of magnetic resonance methods applied to the cardiovascular system. The only journal devoted exclusively to cardiovascular MR, JCMR aims to provide an international forum for communicating the latest findings and reviews on the burgeoning field of cardiovascular MR imaging and spectroscopy.

Booth 14

Medis medical imaging systems

9360 Falls of Neuse Road, Suite 103
Raleigh, NC 27615
Tel: 919-278-7890
Fax: 919-847-8817
Web: www.medis.nl

Medis is a leading provider of software solutions for accurate quantification of cardiovascular MR images. At SCMR 2012, Medis will demonstrate its latest version of its flagship product QMass® Enterprise Solution, which includes a versatile cardiac MR viewer, an integrated connectivity platform and proven best in-class quantitative analysis. Its fast analysis and total workflow solution save valuable time in clinical practice. Visit Medis at Booth 38 for more information.

MedVoxel Systems, Inc.

7363-515 West Hastings St
Vancouver, BC V6B 5K3
Canada
Tel: 778-782-7759
Fax: 778-782-7977
Web: www.medvoxel.com

MedVoxel Systems is a leading medical image post-analysis tool company that develops innovative software solutions. MedVoxel listens to and gains a strong understanding of our customer's needs, which lead to the development of HeartPro, an effective, reproducible and accurate measuring software developed for cardiologists and radiologists enabling them to perform fast, effective, reproducible and accurate measurements with an intuitive user interface and high performance based proprietary technology that translate MRI's.

Philips Healthcare

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The Netherlands
Tel: +31 6-15209542
Web: www.philips.com

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Booth 3

Booth 18

Booth 16

2013 Exhibitor Directory



Precision Image Analysis

12006 98th Avenue NE, Suite 202A
Kirkland, WA 98033
Tel: 425-822-8199
Email: info@PIAmedical.com
Web: www.PIAmedical.com

Precision Image Analysis provides technical post-processing analysis of cardiac MRI's. This helps physicians interpret images more efficiently by shifting labor-intensive post-processing tasks to expert technicians using leading software under the supervision of a board-certified cardiologist. PIA utilizes cloud-based IT architecture which facilitates sharing and rapid transfer of analyses. The analysis is delivered on demand, providing consistent results, easier interpretation and potential increased throughput of patients resulting in lower overall costs and increased revenue for institutions.

Booth 23

TomTec Imaging Systems GmbH

Edisonstrasse 6
Unterschleissheim 85716
Germany
Tel: 0049 89032175500
Fax: 0049 89032175750
Email: marketing@tomtec.de
Web: www.tomtec.de

TomTec Imaging Systems is the worldwide leader for 2D-, 3D- and 4D-solutions in the area of medical ultrasound and medical information management (Healthcare IT).

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Join us at the SCMR / booth#20!

Booth 20

Siemens Medical Solutions USA, Inc.

51 Valley Stream Parkway
Malvern, PA 19355
Tel: 610-219-5257
Fax: 610-448-1534
Email: usa.healthcare@siemens.com
Web: www.usa.siemens.com/healthcare

The Siemens Healthcare Sector is one of the world's largest suppliers to the healthcare industry and a trendsetter in medical imaging, laboratory diagnostics, medical information technology and hearing aids. Siemens offers its customers products and solutions for the entire range of patient care from a single source – from prevention and early detection to diagnosis, and on to treatment and aftercare. By optimizing clinical workflows for the most common diseases, Siemens also makes healthcare faster, better and more cost-effective. Siemens Healthcare employs some 51,000 employees worldwide and operates around the world.

Booth 1

Toshiba America Medical Systems

2441 Michelle Drive
Tustin, CA 92780
Tel: 800-421-1968
Fax: 714-505-2076
Web: www.medical.toshiba.com

Innovator's in medical imaging technology, Toshiba America Medical Systems, markets, sells, distributes and services diagnostic imaging systems throughout USA. Toshiba is committed to providing our customers with the patient-focused technology and optimum system performance needed to succeed in today's healthcare marketplace.

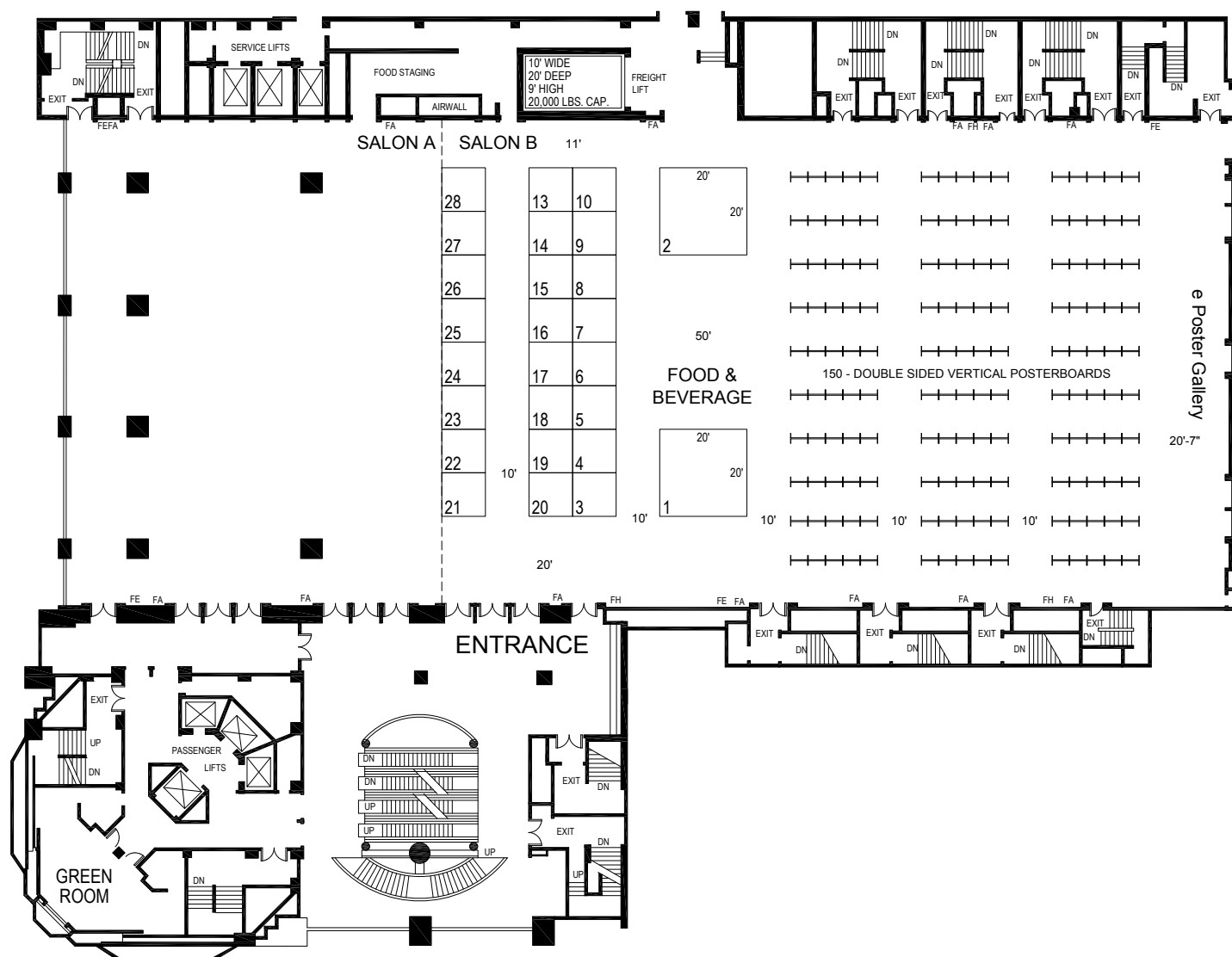
Booth 6

Society for Cardiovascular Magnetic Resonance (SCMR) Booth 24

19 Mantua Road
Mt. Royal, NJ 08061
Tel: 856-423-8955
Fax: 856-423-3420
Email: scmrhq@talley.com
Web: www.scmr.org

The Society for Cardiovascular Magnetic Resonance (SCMR) is a professional association whose vision is to be the recognized representative and advocate for physicians, scientists, and technologists who work in the field of cardiovascular magnetic resonance. It endeavors to be the principal international, independent organization committed to the further development of cardiovascular magnetic resonance through education, quality control, research, and training.

The Society for Cardiovascular Magnetic Resonance January 30 – February 3, 2013 Hilton San Francisco Union Square - Grand Ballroom B



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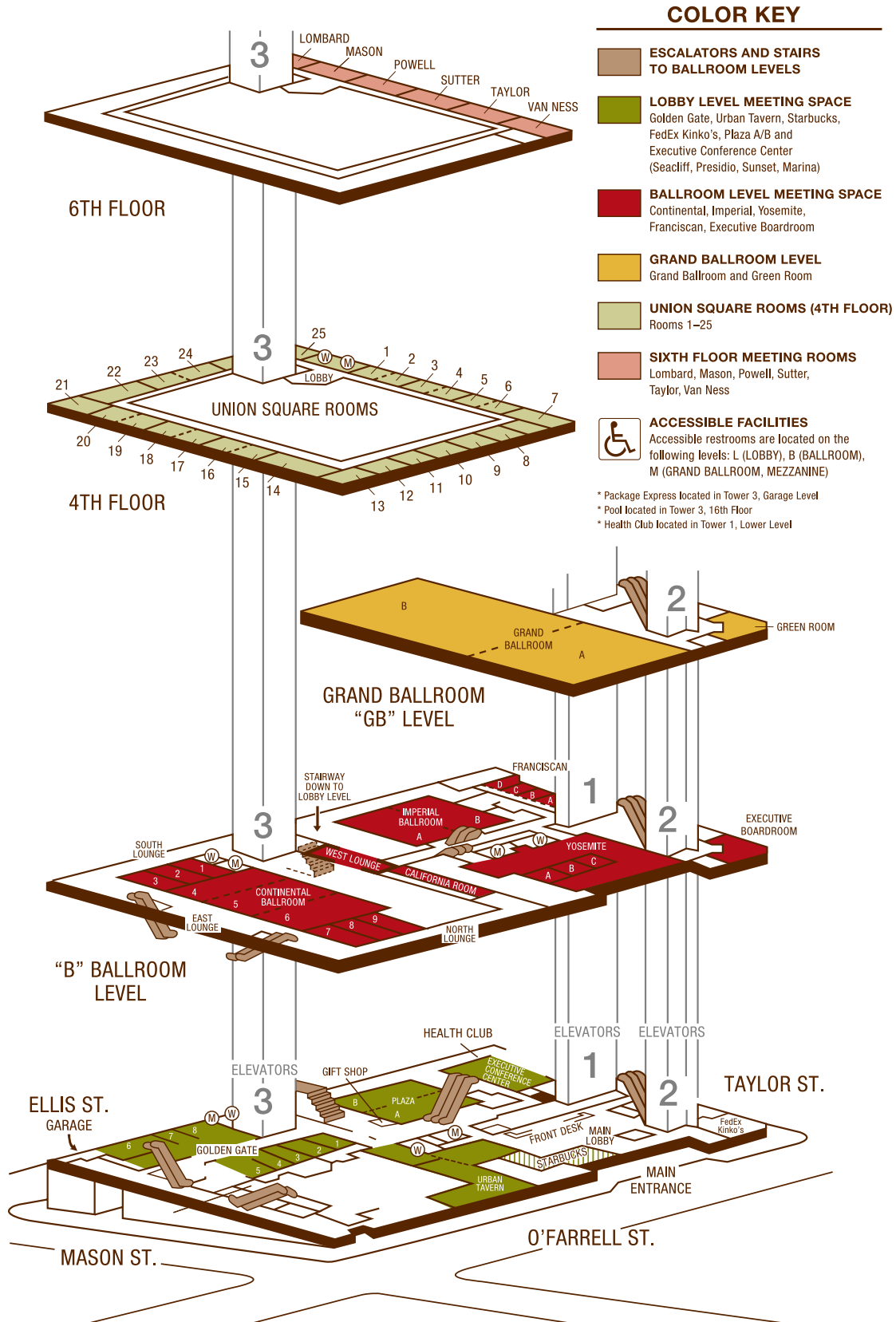
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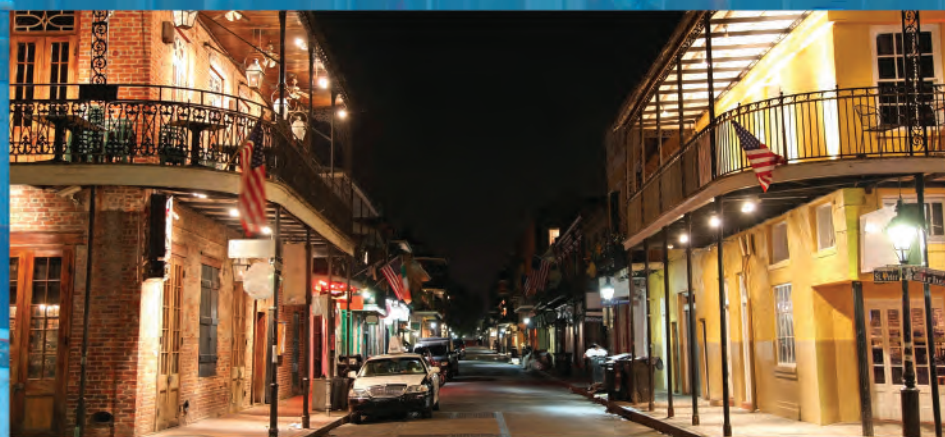


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