SMRA 2017
29th Annual International Conference
MRA: New Perspectives

Stellenbosch
Spier 1692 – Hotel | Spa | Vineyard

Pre-Conference Educational Workshop
Tuesday, October 3rd

Main Conference
Wednesday, October 4th
Thursday, October 5th
Friday, October 6th

President:
James Carr

Organizer:
David Saloner

Endorsed by:
International Society of Magnetic Resonance in Medicine
Society for Cardiovascular Magnetic Resonance
Radiology Society of South Africa
Program at a Glance

Pre-Conference Educational Workshop
Tuesday, October 3rd (Registration at 07:30)
- 08:30 Welcome and Opening Remarks
- 08:45 Keynote
- 09:15 Session 1: Fundamentals: Disease and MR Acquisition
- 09:55 Break
- 10:30 Session 2: The Basics – MRA Techniques
- 12:00 Lunch
- 13:00 Session 3: MRA by Territory – Head & Neck
- 14:15 Break
- 14:45 Session 4: MRA by Territory – Chest & Heart
- 16:15 Break
- 16:45 Session 5: MRA by Territory – Abdomen & Peripheral Vessels
- 18:00 Welcome Reception (Cheese and Wine Reception): Spier Conference Center Foyer

Main Conference Scientific Sessions and Poster Exhibition
Wednesday, October 4th (Registration at 07:30)
- 08:30 Welcome
- 08:45 Keynote
- 09:10 Session 1: Neuro MRA (Plenary and Proferred talks)
- 10:30 Break
- 11:00 Session 2: Vessel Wall Imaging (Proferred talks)
- 12:30 Lunch
- 13:45 Powerpitch – Poster Presentations
- 14:30 Point-Counterpoint
- 15:00 Break
- 15:40 Session 4: Contrast Agents and Ferumoxytol (Proferred talks)
- 17:00 Announcements
- 18:30 Evening Reception: Nooitgedacht Estate, Stellenbosch

Thursday, October 5th (Registration at 07:30)
- 08:30 Announcements
- 08:45 Session 5: Non-contrast MRA (Proferred talks)
- 09:55 Session 6: Contrast Enhanced-MRA (Proferred talks)
- 10:45 Break
- 11:30 Plenary talk
- 12:00 Lunch
- 13:15 Session 7: Flow Imaging (Proferred talks)
- 14:35 Point-Counterpoint
- 15:00 Break
- 15:30 Session 8: Peripheral MRA (Proferred talks)
- 16:50 Plenary talk
- 17:10 Announcements
- 18:30 Evening Reception: The Castle of Good Hope, Cape Town

Friday, October 6th (Registration at 07:30)
- 08:30 Announcements
- 08:45 Session 9: CardioThoracic MRA (Plenary and Proferred talks)
- 10:25 Break
- 11:00 Session 10: New MRA Techniques (Proferred talks)
- 12:20 Lunch
- 13:30 Session 11: Cardiac Structure Imaging (Co-sponsored by the SCMR)
- 15:00 Break
- 15:30 Session 12: Future directions in MRA (Proferred talks)
- 16:40 Closing
- 18:30 Evening Reception: Baia Seafood Restaurant, V and A Waterfront, Cape Town
It is my privilege to welcome everyone to Cape Town, South Africa for the 29th annual meeting of the Society of MR Angiography (SMRA), formerly known as the “MRA club”. As many of you know, the SMRA has met all over the world but this the society’s inaugural meeting in Africa. It is a huge honor for us to be here, and for those attending for the first time I hope you will find this meeting as exciting and cutting edge as I did when I attended for the first time nearly 20 years ago.

The SMRA annual meeting uniquely brings clinicians, scientists, students, and industry partners together into an intimate gathering where individuals can get to know one another as friends and colleagues as well as present and discuss novel approaches to imaging, in many cases for the very first time. This meeting promises to keep that tradition going.

Many thanks to all our industry sponsors without whose generous support the annual meeting of the SMRA would not be possible.

This year, David Saloner, himself a native of South Africa, is returning to his homeland as organizer of what promises to be one of the best SMRA meetings ever. You will be treated to presentations on innovative technical advances, and new clinical applications, along with thought-provoking plenary talks from local and international experts on a range of subjects relevant to medical imaging. Themes will include the role of imaging in HIV disease, Heart Transplantation, Healthcare Economics and cardiac/vascular MRI. For the first time, David has put together “counterpoint” discussions on controversial topics which are particularly relevant given the competing efforts from CT angiography and the increasing focus on over utilization of imaging in healthcare. Additionally, SMRA is working in collaboration with the Radiological Society of South Africa (RSSA) under the leadership of Leon Janse Van Rensburg. We are very grateful for all RSSA’s help in organizing this meeting and bringing SMRA to South Africa, thus providing the opportunity for SMRA members to participate in RSSA’s workshop the weekend of October 7th and 8th; please stick around to attend.

While here explore Cape Town with its spectacular geography and vibrant urban life, recently voted one of the top 10 cities in the world, the perfect setting for SMRA to explore new perspectives. The venue itself is in the Stellenbosch wine-producing region, home to the country’s best-known wine estates and boasting some of the best wines around. The social events are always a highlight of any SMRA meeting and this year we are being spoilt with a variety of locations and experiences from a dinner at a vineyard, to a night spent in the castle which was the site of the original European settlement in South Africa, to dining by the ocean. Thank you, David, and the organizing team for putting together an outstanding array of events. This will be an opportunity to experience the rich culture of this global city as well as meet old and new friends, so I encourage you to participate as much as possible.

So please, enjoy this small paradise at the tip of Africa and have a fantastic time at this unique and unforgettable meeting.

James C Carr, MD
President:
Society of Magnetic Resonance Angiography
Educational Workshop

Tuesday, October 3rd (Registration at 07:30)

08:30 Welcome, and Announcements (08:30 - 08:40)

08:40 Opening Remarks
   James Carr (Feinberg School of Medicine)

08:45 Keynote Lecture: MRA — Evolution of Hardware Enables Technique Evolution
   Bob Edelman (North Shore University Health System)

Workshop 1: Fundamentals — Disease and MR Acquisition
   Moderators: Graham Wright

09:15 Vascular Pathology
   David Saloner (University of California San Francisco)

09:35 k-space Concepts
   Frank Korosec (University of Wisconsin — Madison)

09:55 Break (09:55 – 10:30)

Workshop 2: The Basics — MRA Techniques
   Moderators: Richard Frayne

10:30 Time-of-Flight (TOF) MRA
   Michael Markl (Feinberg School of Medicine)

10:50 Phase Contrast MRA
   Chuck Dumoulin (Cincinnati Children's Hospital)

11:10 Contrast Enhanced MRA
   Martin Prince (Cornell University)

11:30 Non-contrast MRA
   Mitsue Miyazaki (Toshiba Medical Research)

11:50 Discussion
   All speakers

12:30 Lunch (12:30 - 13:00)
Tuesday, October 3rd

Workshop 3: MRA by Territory — Head & Neck
Moderators: Debiao Li
13:00  Intracranial MRA/I
John Huston (Mayo Clinic)
13:15  Carotid MRA/I
Kevin DeMarco (Walter Reed National Military Medical Center)
13:30  Contrast Agents: Types, Mechanisms and Applications
Jeff Maki (University of Washington)
13:45  Discussion
All speakers

14:00  Break (14:00 - 14:45)

Workshop 4: MRA by Territory — Chest & Heart
Moderators: Philippe Douek
14:45  MRA of the Aorta
Michael Hope (University of California San Francisco)
15:00  Pulmonary MRA and Perfusion Imaging
Chris Francois (University of Wisconsin — Madison)
15:15  Coronary Arteries
Debiao Li (Cedars-Sinai Medical Center)
15:30  Overview of Current Cardiac MR Topics
Jeremy Collins (Feinberg School of Medicine)
16:00  Discussion
All speakers

16:15  Break (16:15 - 16:45)

Workshop 5: MRA by Territory — Abdomen & Peripheral Vessels
Moderators: Giles Roditi
16:45  Renal and Abdominal MRA
Tim Leiner (Utrecht University Medical Center)
17:00  Hepatic and Portal Venous MRA and Flow
Scott Reeder (University of Wisconsin — Madison)
17:15  Peripheral MRA: MRA in Lower Extremities
Giles Roditi (Glasgow Royal Infirmary)
17:30  4D-flow
Oliver Wieben (University of Wisconsin — Madison)
17:45  Discussion
All speakers

17:55  Announcements

18:00  Evening Event: Welcome Reception (Wine and Cheese), Spier Conference Center Foyer
Scientific Sessions

Wednesday, October 4th (Registration at 07:30)

08:30  Welcome, and Announcements (08:30 - 08:45)

08:45  Keynote Address: MRA — Successes and Challenges
       Tim Leiner (Utrecht University Medical Center)

09:10  Plenary Talk: Neurovascular Imaging in HIV/AIDS — The South African Perspective
       Sally Candy (University of Cape Town)

Session 1: Neuro — MRA
Moderators: Winfried Willinek and Seong Eun-Kim

09:30  Image-based Assessment of Uncertainty in Carotid Lumen Quantification
       Lilli Kaufhold (Fraunhofer MEVIS)

09:40  Automatic Quantification of the Impact of Intracranial Atherosclerotic Lesions on
       Cerebrovascular Hemodynamics Using 4D-flow MRI
       Alireza Vali (Medical College of Wisconsin)

09:50  Parameters Based on Blood Flow Velocity of Cerebral Intracranial Aneurysms: Comparative
       Study with Computational Fluid Dynamics
       Haruo Isoda (Nagoya University)

10:00  Saccular Intracranial Aneurysm Wall Permeability and Shear Stress Distribution: a Further
       Insight into Rupture Pathogenesis.
       Huijun Chen (Tsinghua University)

10:10  Internal Jugular Vein and Common Carotid Artery Separation in Pulsatile Tinnitus Patients
       using Level Set based Shape Prior Segmentation
       Evan Kao (University of California San Francisco)

10:20  Automatic Blood Flow Measurements in 4D-flow MRI
       Tora Dunns (Umeå Universitet)

10:30  Break (10:30 - 11:00)
Wednesday, October 4th

**Session 2: Vessel Wall Imaging**  
*Moderators: Ye Qiao and John Huston*

11:00  
Automatically Identify Plaque Components in Carotid Artery using Simultaneous Non-contrast Angiography and IntraPlaque Hemorrhage (SNAP) Imaging  
Qiang Zhang (Tsinghua University)

11:10  
Measurement of T2 of Symptomatic and Asymptomatic IntraPlaque Hemorrhage by using Motion Insensitive 3D Multiple Echo Inversion Recovery Stack of Star (ME IR SOS) Technique  
Seong-Eun Kim (University of Utah)

11:20  
Unruptured Intracranial Aneurysms: Relationship between Wall Enhancement and Rupture Risk Factors Based on High-resolution Magnetic Resonance Imaging  
Bing Tian (Changhai Hospital of Shanghai)

11:30  
MRI Displays Mural Inflammatory Changes of Intracranial Arteries in Giant Cell Arteritis  
Thorsten Bley (University Hospital of Würzburg)

11:40  
Prediction of Progressing Stroke in Branch Atheromatous Disease using 3T MRI  
Keiji Igase (Washokai Sadamoto Hospital)

11:50  
Application of 3D SPACE MRI on Intracranial Aneurysm: a Preliminary Study  
Bing Tian (Changhai Hospital of Shanghai)

12:00  
Quantitatively Monitoring Regression or Progression in Intracranial Atherosclerotic Plaques using 3D Vessel Wall Imaging  
Anthony Christodoulou (Cedars-Sinai Medical Center)

12:10  
Imaging Findings in Pulsatile Tinnitus Patients using Black-blood MRI: a Retrospective Study  
Huijun Chen (Tsinghua University)

12:20  
MRI Compatible Animal Model of Vessel Wall Imaging using a T1-weighted Black-blood Technique and DCE MRI  
Laura Eisenmenger (University of Utah)

12:30  
Lunch (12:30 - 13:45)
Scientific Sessions

Session 3: Poster PowerPitch
Moderators: Richard Frayne and Alex Barker
13:45  Poster PowerPitch

Moderator: Chris Hess and Expert Panel
14:40  Point-counterpoint: in Vascular Disease, Diameter Stenosis Is All That Matters

15:10  Break (15:10 - 15:40)
**Session 4: Contrast Agents**  
*Moderators: Jeff Maki and Giles Roditi*

15:40  **Gold Sponsor Talk (Bracco): Gadolinium Deposition — Where are We and Where are We Going?**  
*Gianpaolo Pirovano (Bracco)*

15:50  **Intra-individual Quantitative and Qualitative Comparison of Macrocyclic Contrast Agents in Multi-phase 3D-MRA and 4D-MRA at 1.5T and 3T in Minipigs**  
*Dariusch Hadizadeh (University of Bonn)*

16:00  **Ferumoxytol-enhanced Magnetic Resonance Angiography (FEMRA) for the Assessment of Potential Kidney Transplant Recipients**  
*Sokratis Stoumpos (University of Glasgow)*

16:10  **Myocardial Fractional Blood Volume Estimation using Ultra Low Dose Ferumoxytol-enhanced MRI and Three Compartment Model of Water Exchange in Patients with Chronic Kidney Disease**  
*Aleksandra Radjenovic (University of Glasgow)*

16:20  **Placental Perfusion MRI: ASL FAIR and Ferumoxytol DCE in the Rhesus Macaque**  
*Kevin Johnson (University of Wisconsin — Madison)*

16:30  **Ferumoxytol-Enhanced Magnetic Resonance Angiography (FEMRA) for the Assessment of Patients with Complex Anatomy Due for Vascular Access Creation**  
*Sokratis Stoumpos (University of Glasgow)*

16:40  **Ferumoxytol Enhanced MRA: Single Center Clinical Experience**  
*Paul Finn (University of California Los Angeles)*

16:50  **Gold Sponsor Talk (Guerbet): Brain Hyperintensities — State of the Art and Beyond**  
*Alexander Radbruch (Guerbet)*

17:00  **Announcements**

18:30  **Evening Event: Dinner at Nooitgedacht Estate, Stellenbosch**
Scientific Sessions

Thursday, October 5th (Registration at 07:30)

08:30 Welcome, and Announcements (08:30 - 08:45)

Session 5: Non-contrast MRA
Moderators: Mitsue Miyazaki and Tim Leiner

8:45 Fast Carotid Artery MR Angiography with Compressed Sensing Based Three-dimensional Time-of-Fight Sequence
Bo Li (Nanchang University)

8:55 Cerebral Arteriography and Venography Using Velocity-selective Pulse Trains
Qin Qin (Johns Hopkins University)

9:05 Rapid, Large Field-of-View Neurovascular MRA Using an Ungated Radial Quiescent-Interval Slice-Selective (QISS) Protocol
Ioannis Koktzoglou (NorthShore University HealthSystem)

9:15 Visualizing Small Arteries in the Brain using Fluid Suppressed Balanced SSFP MR Angiography
Susanne Schmid (University of Calgary)

9:25 Initial Experience with Velocity Selective Arterial Spin Labeling for Non-contrast Neurovascular Imaging
Mark Schiebler (University of Wisconsin — Madison)

9:35 Gated Thoracic Magnetic Resonance Angiography at 3T: is Contrast Needed?
- Chengcheng Zhu (University of California San Francisco)

9:45 Ungated, Free-breathing, "No Hassle" Imaging Strategy for Nonenhanced Peripheral MR Angiography at 3 Tesla
Robert Edelman (NorthShore University HealthSystem)

9:55 Integration of ASL into Stereotactic Radiosurgery of AVMs
Onur Ozyurt (Telemed)

10:05 Break (10:05 - 10:40)
**Thursday, October 5th**

**Session 6: Contrast-enhanced MRA**
*Moderators: Frank Korosec and Aleksandra Radjenovic*

*Gregor Jost (Bayer)*

10:50  Finding the Optimal Injection Strategy for Contrast-Enhanced MR Angiography  
*Jeffrey Maki (University of Washington)*

11:00  Predicting Hepatocellular Carcinoma Treatment Response to Yttrium-90 Radioembolization by quantitative perfusion using contrast-enhanced magnetic resonance angiography with echo sharing and radial k-space sampling  
*Jeremy Collins (Feinberg School of Medicine)*

11:10  Effect of Reference Vessel Selection on an Image Processing Pipeline for the Longitudinal Surveillance of Intracranial Aneurysms  
*Farshid Faraji (University of California San Francisco)*

11:20  Feasibility of 4D-flow Based PCMRA Volumetry to Measure Longitudinal Ascending Aorta Growth  
*Alex Barker (Feinberg School of Medicine)*

11:30  Low-dose dynamic CE-MRA employing iterative reconstruction: Gains and Limitations  
*Michaela Schmidt (Siemens Healthcare GmbH)*

11:40  Plenary Talk: Chris Barnard's Influence on the Waves in Cardiac Surgery  
*Otto Thaning (Christiaan Barnard Memorial Hospital)*

12:00  Lunch (12:00 - 13:15)
Scientific Sessions

Session 7: Flow
Moderators: Mariana Bustamante and Michael Hope

13:15 Continuous Intracranial Flow MRI with High Frame Rates
   Carson Hoffman (University of Wisconsin — Madison)

13:25 Accelerated, SMS-MOTSA, Radial 4D-flow imaging with Magnetization Transfer Preparation
   Kevin Johnson (University of Wisconsin — Madison)

13:35 Optimizing TE and TR of 4D-flow Acquisitions for Reduced Scan Times
   Michael Loecher (University of California Los Angeles)

13:45 Highly Accelerated Multi-Directional Motion Encoded 4D-flow MRI
   Henrik Haraldsson (University of California San Francisco)

13:55 A New Imaging Method: Integrating a Novel Low-rank Model with Parallel Imaging to Enable Real-time 4D-flow MRI with Sparse Sampling
   Rui Li (Tsinghua University)

14:05 Comparison of 4D-flow MRI Measurements to PIV and CFD Modeling
   Vitaliy Rayz (Purdue University)

14:15 Automated Analysis of 4D-flow MRI Data in Cerebral Arteriovenous Malformations
   Maria Aristova (Feinberg School of Medicine)

14:25 Initial Experience with 4D-flow Imaging in Patients with Dissection of the Descending Thoracic Aorta
   Nicholas Burris (University of Michigan)

14:35 Gold Sponsor Talk (Siemens Healthcare GmbH): Advances in 4D-flow Imaging
   Ning Jin (Siemens Healthcare GmbH)

14:45 Break (14:45 - 15:15)

Moderator: Michael Hope and Expert Panel

15:15 Point-counterpoint: Mitral Valve — The killer 4D-flow App?
Thursday, October 5th

**Session 8: Peripheral MRA**  
*Moderators: Jean-Paul Serfaty and Paul Finn*

15:35  Gold Sponsor Talk (Philips Medical Systems): Advances in CardioVascular MR  
*Marc Kouwenhoven (Philips Medical Systems)*

*Oliver Wieben (University of Wisconsin — Madison)*

15:55  Preliminary Experience with Simultaneous Arterial and Venous High-resolution Late-phase Imaging of the Run-offs Using Gadobutrol  
*Rami Homsi (University Hospital Bonn)*

16:05  From Bench to Bedside: Validation of Native-contrast MRI Techniques to Characterize Popliteal and Tibial Chronic Total Occlusions from Critical Limb Ischemia Patients  
*Trisha Roy (University of Toronto)*

16:15  MRI/MRA Based Models of Abdominal Aortic Aneurysm Mechanics  
*Joseph Leach (University of California San Francisco)*

16:25  Validation of MRA and CBCT to Evaluate Response to Stem Cell Therapy in a Rabbit Model of Peripheral Arterial Disease  
*Dara Kraitchman (Johns Hopkins University School of Medicine)*

16:35  MRI Characteristics of Lesions Relate to the Difficulty of Peripheral Arterial Endovascular Procedures  
*Trisha Roy (University of Toronto)*

16:45  Gold Sponsor Talk (Circle Cardiovascular Imaging, Inc.): 4D-flow MRI — Applications and Processing  
*James Carr (Feinberg School of Medicine)*

16:55  Announcements

**18:30  Evening Event: Dinner at the Castle of Good Hope, Cape Town**
Scientific Sessions

Friday, October 6th (Registration at 07:30)

08:30 Welcome, and Announcements (08:30 - 08:45)

Session 9: Cardio Thoracic MRA
Moderators: Chris Francois and Jing Liu

08:45 Plenary Talk: MR Imaging in the Backdrop of the Changing Health Care Cost Management Environment
Howard Chrisman (Feinberg School of Medicine)

09:05 Automated cardiac segmentation in 4D-flow MRI
  • Mariana Bustamante (Linköping University)

09:15 Aortic 3D Hemodynamics in Patients with Unicuspid and Partial Fusion Bicuspid Aortic Valve Disease
  • Liliana Ma (Feinberg School of Medicine)

09:25 A Novel Approach to Reduce Scan Times with Simultaneous QFlow and bSSFP Imaging within the Same Breath Hold
Charles Dumoulin (Cincinnati Children’s Hospital)

09:35 Eccentric Flow in the Ascending Aorta is Associated with Aortic Growth in Patients with Isolated Bicuspid Aortic Valve
Nicholas Burris (University of Michigan)

09:45 Comparison of Contrast and Non-Contrast Phase Contrast Magnetic Resonance Angiography in Infants
Sylvana Garcia-Rodriguez (University of Wisconsin — Madison)

Moderator: James Carr and Expert Panel

09:55 Point-counterpoint: MRA and CTA — Complementary or Competitive?

10:15 Break (10:15 - 10:45)
Session 10: New MRA Techniques
Moderators: Kevin Johnson and Chuck Dumoulin

10:45  Gold Sponsor Talk (GE Healthcare): Advances in MR Angiography
       Ty Cashen (GE Healthcare)

       Ioannis Koktzoglou (NorthShore University HealthSystem)

11:05  Carotid All-in-One: Comprehensive Quantitative Evaluation of Atherosclerosis in One Scan
       Anthony Christodolou (Cedars-Sinai Medical Center)

11:15  Common Carotid Artery Lumen Segmentation from Cine Fast Spin Echo Magnetic Resonance Images
       Roberto Souza (University of Campinas)

11:25  MRI Quantitative T2 Mapping on Thrombus to Predict Recanalization After Endovascular Treatment for Acute Anterior Ischemic Stroke
       Jean-Michel Serfaty (CHU de Nantes Hôtel-Dieu)

11:35  High Resolution Dynamic T1 Mapping using a Combination of Cardiac-phase Resolved Steady-state Look-Locker Imaging and Locally Low-rank Denoising
       Sebastian Weingärtner (University of Minnesota)

11:45  First Experience with Free-breathing Cardiac Quantitative Susceptibility Mapping in Patients post Gadolinium Administration
       Martin Prince (Cornell University)

11:55  Fully Self-Gated Push-Button Non-Contrast 5D Imaging of the Heart
       Matthias Stuber (University of Lausanne)

12:05  PET-MR of a New Fibrin Binding Agent in a Porcine Model of Acute Pulmonary Embolism
       Mark Schiebler (University of Wisconsin)

12:15 Lunch (12:15 – 13:15)
Scientific Sessions

**Session 11: Cardiac Structure**

*Moderators Ntobeko Ntusi and Matthias Stuber*

13:15 Plenary talk: Cardiac MR Imaging — Challenges and Opportunities  
Ntobeko Ntusi (University of Cape Town)

13:35 Breathing Coronary MRA at 3 Tesla using Fast Interrupted Steady-state  
Robert Edelman (NorthShore University HealthSystem)

13:45 Exploring Binning Strategies for Respiratory Motion-Resolved Coronary MRA in Patients  
- John Heerfordt (Lausanne University Hospital)

13:55 Automated Cardiac Resting Phase Detection in 2D Cine MR Images for Acquisition Window Selection in Coronary MRI: Preliminary Results  
Davide Piccini (Siemens Healthcare AG)

14:05 Cardiorespiratory-Resolved 3D Continuous First-Pass Cardiac Perfusion MRI  
Jing Liu (University of California San Francisco)

14:15 Cardiac MRI Heart Deformation Analysis Demonstrates Regional Heterogeneity in Myocardial Strain in HIV+ Patients.  
- Bradley Allen (Feinberg School of Medicine)

14:25 Ventricular Kinetic Energy in Healthy Volunteers Using Respiratory Gated 4D-flow MRI  
Alejandro Roldan-Alzate (University of Wisconsin — Madison)

14:35 Role of Structure-Function Cardiac MRI in the Detection of Acute Cardiac Allograft Rejection after Heart Transplantation  
- Ryan Dolan (Feinberg School of Medicine)

14:45 Comprehensive Evaluation of Extracellular Volume Measurements and Myocardial Scar Detection by Late Gadolinium Enhanced Cardiac MR using Gadoterate Meglumine  
Amir Ali Rahsepar (Feinberg School of Medicine)

14:55 Break (14:55 – 15:30)

• Potchen Award Competitor
15:30 Cardiovascular MR Image Segmentation in Congenital Heart Disease using a Dilated Convolutional Neural Network
Tim Leiner (Utrecht University Hospital)

15:40 Characterization of the Vulnerable Intracranial Atherosclerotic Plaque Features by High Resolution MRI and a Quantitative Radiomics Approach
Chengcheng Zhu (University of California San Francisco)

15:50 Characterization of Carotid Plaque Magnetic Resonance Imaging with Deep Learning Convolutional Neural Networks
Chun Yuan (University of Washington)

16:00 Evaluation of Inflammatory Processes in Carotid Atherosclerosis using 18F-NaF Enhanced PET/MRI: Preliminary Results
Philippe Douek (Hôpital Louis Pradel)

16:10 High Spatiotemporal Resolution 3D Contrast-enhanced MR Angiography with a Compact 3T Scanner
Eric Stinson (Mayo Clinic)

16:20 Cerebrospinal Fluid (CSF) Flow in the Cerebral Aqueduct can be Quantified with High Resolution using Magnetic Resonance Imaging at 7 Tesla
Johannes Töger (Lund University)

16:30 In-vivo 4D Flow MRI at 10.5T: Feasibility Study
Mostafa Toloui (University of Minnesota)

16:40 Closing remarks | Awards | Announcements

18:30 Evening Event: Dinner at Baia Seafood Restaurant Vand A Waterfront, Cape Town
Poster Exhibition

**Wednesday, October 4th — Friday, October 6th**

— Perfusion Abnormality in Posterior Inferior Cerebellar Artery Termination of Vertebral Artery on Arterial Spin Labeling and Dynamic Susceptibility Contrast Perfusion MRI
  Dong Woo Park (Hanyang University Guri Hospital)

— Comparison of Efficacy of Standard Neurovascular Coil to Dedicated Carotid Surface Coil in Evaluation of Intraplaque Hemorrhage
  Waleed Brinjikji (Mayo Clinic / University of Toronto)

— Aortic Stiffness, Epicardial Fat, Left Ventricular Myocardial Fibrosis and Contractility in Patients with Hypertension and Diabetes Mellitus
  • Rami Homsi (University Hospital Bonn)

— Atherosclerotic Diseases in Entire Craniocervical Arteries from Aortic Arch to Intracranial Arteries and Stroke Risk: A 3D Multicontrast MR Vessel Wall Imaging Study
  Xihai Zhao (Tsinghua University)

— Ontological Approach to Detecting Imaging Artifacts in MRA images
  Vitaliy Rayz (Purdue University)

— Calf Reactive Hyperemia Indicates Severity and Predicts Functional Outcome of Limb Ischemia: a Pilot Study using Arterial Spin Labeling and Model-based Analysis
  • Hou-Jen Chen (University of Toronto)

— Spatio-temporal Filtering of Blood Flow in 4D Phase-Contrast Magnetic Resonance Imaging
  Sébastien Levilly (Ecole Centrale de Nantes)

— The Atherosclerosis of Circle of Willis Detected by Black-blood MRI are Different Between Stroke Patients and Asymptomatic Controls
  • Yalun Chen (Chongqing Medical University)

— MR Angiography in Patients after MRI Compatible Pacemaker/IECD Implantation
  Manuela Aschauer (University Hospital GRAZ)

— Respiratory-resolved Self-gated 3D Radial 4D-flow MRI: Initial Results
  Monica Sigovan (University of Lyon)

— RF Coil for Comprehensive Neurovascular Imaging
  J. Rock Hadley (University of Utah)

— Towards a 256-channel Cardiac Receive Coil Array to Facilitate One Order of Magnitude Faster Cardiac MR
  Tim Leiner (Utrecht University Hospital)

— Body Shape Index, Left Ventricular Remodeling and Atherosclerosis: an Observational Study
  Emma Roditi (University of Dundee)

— 3D TOF with Compressed Sensing for Peripheral Non-contrast MRA
  Ty Cashen (GE Healthcare)

— Highly Accelerated Dynamic MRI Using Information-based, Rank-adaptive Reconstruction
  Julia Velikina (University of Wisconsin — Madison)

•• Passariello Award Competitor
Congratulations

We are also once again providing support for traveling stipends (funded by UCSF) for the top ranked abstracts at the meeting so congrats to all the trainees who received these. Our younger colleagues represent the future of our society so please be sure give them a big “well done”.
Venue

Spier 1692

Going since 1692, Spier is one of South Africa’s oldest wine farms, with a fascinating history and a legacy that the owners never take for granted. Today the farm has a modern, conscious energy. Focused on art and good farming, Spier is about farm-to-table food and accoladed wines. Its people are committed to living and working in ways that bring positive change to our environment and community. The Spier Hotel and conference team invite you to do business in an inspiring atmosphere.

Stellenbosch

Stellenbosch (founded in 1679) is about 50 km east of Cape Town and is the second oldest town in South Africa. It was named (like Simon's Town) after the former Governor Simon van der Stel. The town is situated on the banks of the Eerste River ('First River') and has some fine examples of Cape Dutch architecture. It is also known as ‘Eikestad’ ('Oak City') because of its oak tree lined streets. Wines from the Stellenbosch region are known internationally and rank among the best in the world. Stellenbosch is also home to one of the country's oldest established universities with over 25000 students. There is a bustling night life during the university term-time, with many night clubs catering for young people. Stellenbosch is a diverse city, although many Afrikaans speaking people still reside in the area and Afrikaans as a language is still often used in day to day life. Due to the University, many European and American exchange students roam the streets.

Stellenbosch is small enough that the entire city centre can easily be covered on foot. The Tourism Bureau also has a few cycles to rent. A curiosity is that there are no street signs. If you look closely you will see that the street names are indicated in yellow (in Afrikaans) on the edge of the sidewalks.

Cape Winelands

The Cape Winelands are a region in the south of South Africa. The winelands boasts some of the most majestic scenery in South Africa. It is situated to the north-east of Cape Town and offers a beautiful landscape of wine hills and mountains.

Cape Town

Cape Town [188] is the second largest city in South Africa and is the capital of the Western Cape Province, as well as being the legislative capital of South Africa (the Houses of Parliament are here). It is located in the south-west corner of the country near the Cape of Good Hope, and is the most southern city in Africa. It is a stone's throw from South Africa's world-famous Cape Winelands around Stellenbosch, Paarl and Franschhoek.
Explore South Africa

Travel Information
Cape Town International Airport is located 30 minutes' drive from Stellenbosch. Most international flights connect to Cape Town via O.R. Tambo International Airport in Johannesburg, although a number of direct flights from Europe are also available.

Transfer to and from Airport
The Congress committee cannot arrange transfers to and from the airport for all delegates. Arrangements and payment for transfers are the delegate's own responsibility.

Delegates staying at The Village at Spier Hotel can organise transfers to and from the airport directly with the Travel desk at Spier, please contact Creative Concierge via email at traveldesk@spier.co.za or on +27.021.809.1911. Please forward the following information:

Date of arrival and/or departure, time of flight arrival and/or departure, and the flight number.

Also recommended is Quality Touring Services, Durbanville, Cape Town, South Africa
Robin Troup
Office: 021.979.5936; Fax: 021.979.5934; Cell: 082.657.3443
Email: robin@qualitytouringservices.co.za

Stellenbosch Tourism and Information Bureau (www.stellenbosch.travel)
A walking tour of Stellenbosch provides fascinating glimpses of colonial Dutch architecture. The Stellenbosch Tourism and Information Bureau, 36 Market St., [33] organizes one and a half hour guided tours at 11.00 and 15.00 Monday to Friday (R80pp) and special groups can also be arranged for on request.

Signature Tours (www.signaturetours.co.za)
South Africa has incredible attractions and activities you should make part of your 2017 meeting experience. SMRA has worked with a local tour company to put together a list of pre- and post-meeting tours for anyone interested in experiencing more or the local area. Contact Jannie Loubser at Signature Tours directly jannie@signaturetours.co.za for further information.

Cape Region Tours (www.signaturetours.co.za/example-tours)
— Cape Town and Kruger: 8 days, 7 nights
— Classic Garden Route: 5 days, 4 nights
— Garden Route and Wildlife: 7 days, 6 nights
— Rovos Rail: 24 hours to a fortnight
— South African Highlights Tour 1: 14 days, 13 nights
— Victoria Falls (Zambia): 4 days, 3 nights
— Okavango Delta Safari (Botswana): 5 days, 4 nights

For up-to-date information on happenings in and around the meeting area, please visit the South African Tourism Bureau and/or the Cape Town Tourism websites.
— Cape Town Travel (www.capetown.travel)
— South African Tourism (country.southafrica.net)
— Republic of South Africa Department of Tourism (www.tourism.gov.za)
Social Event

Wednesday, October 4th
18:30 Dinner
Nooitgedacht Estate, Stellenbosch
Website: http://nooitgedachtestate.co.za/

Nooitgedacht is a family owned and managed historical Cape Dutch wine estate with a homestead and outbuildings that date back to 1774. It is a breathtaking setting for any special event, boasting expansive lawns shaded by centuries old oak trees, rolling vineyards and exhibiting a truly old world atmosphere balanced by contemporary design features. We welcome guests to experience our unique brand of historic charm, warmth and history.

The original cellar with its rustic atmosphere is used for indoor functions and can accommodate 120 - 260 guest with a dance floor and 300 guests without, while our expansive gardens offer ample outdoor opportunities to entertain in grand style.

The Wirth family pride themselves on their personal touch which can be found in every aspect of our service offering. All details are tailored to suit your particular needs to ensure your function is a unique and special occasion.
Thursday, October 5th
18:30 Dinner
The Castle of Good Hope, Cape Town
Website: http://www.capetowncastle.co.za

The Castle of Good Hope is the oldest surviving building in South Africa. Built between 1666 and 1679, this pentagonal fortification replaced a small fort of timber and clay built by Commander Jan van Riebeeck in 1652 upon establishing a maritime replenishment station at the Cape of Good Hope for the Dutch East Indian Company or better known as the VOC (Verenigde Oost-Indische Compagnie).

In 26 April 1679 the five bastions were named after the main titles of Willem, the Prince of Orange. The Western Bastion was named Leerdam; followed in clockwise order by Buuren, Catzenellenbogen, Nassau, and Oranje. In 1936 the Castle was declared a National Monument. As a result of an extensive, ongoing restoration and conservation programme launched in the 1980’s, the Castle of Good Hope remains the best preserved of its kind built by the VOC in regions where it had interests in previous centuries.

Today, the Castle of Good Hope house the regional headquarters of the South African Army in the Western Cape, the famous William Fehr Collection of historic artworks, the Castle Military Museum and ceremonial facilities for traditional Cape Regiments.
Social Event

Friday, October 6th
18:30 Dinner
Baia Seafood Restaurant, V and A Waterfront, Cape Town
Website: https://baiarestaurant.co.za/

Since opening its doors in 2001, the reputation of Baía has spread far and wide as a sophisticated landmark for fine cuisine and wine in the Cape.

Set in a prime spot at the Victoria Wharf, Baía (pronounced Ba-hia and meaning the Bay) enjoys spectacular panoramic harbour and ocean views. It has a cocktail bar, interior dining areas and covered outside dining areas spread across four terraces. The relaxing interior reflects the beauty of Table Bay in the wave-like mosaics and pale blues and mauve colours.

Baía specializes in the finest seafood from around southern Africa, the finest poultry, beef and venison and a renowned wine-list with rare Cape vintage wines and imported liqueur selection — and has earned the reputation as the place to indulge in the best seafood platter in the Cape.

Patricio Cumaio, chef de cuisine, believes in using only the finest ingredients. He created the fare at Baía, with a menu inspired by a combination of fine continental cuisine and Portuguese colonial traditions. One of the legendary house specialties tempts diners with a bouillabaisse, French influence or a cataplana with a Portuguese influence, a veritable feast of prawns, langoustines, mussels, calamari and linefish.

Luis Viana, the experienced restaurateur who owns Baía, looks back on the years gone by with pride. He says, “People love the food, the style and the views at Baía. We’ve got the best restaurant terraces in the world. Where else can you sit at a table in a working harbour and watch passenger liners dock? Baía has exceeded expectations. I spoil my guests with the best food, the best wines, the best service and the best quality. I’ve known many of my customers for years — they come from all countries to dine at Baía.”
Spousal Tour Program

Wednesday October, 4th
Table Mountain and the V and A Waterfront (08:00 - 16:30)
Luxury air-conditioned transport, accredited guide, Table Mountain cableway return, lunch.

Depart from Spier Hotel Reception and travel to Table Mountain. Our famous flat topped mountain is a National Monument, a World Heritage site and one of the 7 Natural Wonders of the world. An exciting trip in the Cableway will take us to the top and back. Spend some time at the exciting Victoria & Alfred Waterfront. It is a wonderful combination of a working harbour, upmarket shopping, fashionable eateries and an absorbing parade of both locals and visitors.

Thursday, October 5th
The Winelands (09:00 - 16:30)
Luxury air-conditioned transport, accredited guide, 3 wine tastings, lunch.

We travel the beautiful Cape winelands and include tastings in the three main wine regions/wards of Paarl, Franschhoek and Stellenbosch. Our lunch stop should take us to the picturesque town of Franschhoek. Enjoy 3 wine tastings along the way.

Friday, October 6th
The Cape Peninsula (07:00 - 16:30)
Luxury air-conditioned transport, accredited guide, Cape Point and Boulders Beach entrances, lunch.

An early start to the day will get us to Cape Point and the Cape of Good Hope by midday. Spectacular scenery along the way are Chapmans Peak drive, Noord Hoek Beach and Misty Cliffs. Lunch (included) is enjoyed at Cape Point. On the way back via the False Bay Coast we stop at boulders Beach Penguins as well.
Gold Sponsors

Special Thanks
We are fortunate to receive strong support from our industry colleagues each year for the SMRA meeting and this year is no different. This meeting would not be possible without the generous support from industry. Representatives of all the major companies have made the long trip to support us once again so we at SMRA are very grateful. Please try to visit the industry booths at meeting venue and chat with their representatives.

Gold Sponsor Talks

**Wednesday, October 4th**
15:40 Bracco — *Presented by: Gianpalo Pirovano*
16:50 Guerbet — *Presented by: Alexander Radbruch*

**Thursday, October 5th**
10:40 Bayer Healthcare — Presented by: Gregor Jost
14:35 Siemens Healthcare GmbH — *Presented by: Ning Jin*
15:35 Philips Medical Systems — *Presented by: Marc Kouwenhoven*
16:45 Circle Cardiovascular Imaging, Inc. — *Presented by: James Carr*

**Friday, October 6th**
10:45 GE Healthcare — *Presented by: Ty Cashen*

Bayer HealthCare
Bayer HealthCare’s Radiology unit is a global leader in developing and manufacturing contrast agents used in X-ray, computed tomography (CT) and magnetic resonance imaging (MRI), as well as injection systems for diagnostic and therapeutic medical procedures in CT, MRI and cardiovascular and peripheral vascular disease.

radiology.bayer.com
Bracco
Bracco Imaging offers a product and solution portfolio for all key diagnostic imaging modalities: X-ray Imaging (including Computed Tomography-CT, Interventional Radiology, and Cardiac Catheterization), Magnetic Resonance Imaging (MRI), Contrast Enhanced Ultrasound (CEUS), and Nuclear Medicine through radioactive tracers. The diagnostic imaging portfolio is completed by a range of medical devices and advanced administration systems for contrast imaging products.

braccoimaging.com

Circle Cardiovascular Imaging, Inc.
Circle Cardiovascular Imaging develops and markets cardiac post-processing software worldwide that allows for the evaluation and analysis of MR and CT images. Available for clinical and research use.

circlecvii.com
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GE Healthcare provides transformational medical technologies and services that are shaping a new age of patient care. Our broad expertise in medical imaging and information technologies, medical diagnostics, patient monitoring systems, drug discovery, biopharmaceutical manufacturing technologies, performance improvement and performance GE Healthcare U.S. solutions services help our customers to deliver better care to more people around the world at a lower cost.
gehealthcare.com

Guerbet United States / France
A pioneer in the field of contrast agents with more than 80 years of experience, Guerbet is the only pharmaceutical group fully dedicated to medical imaging worldwide. As such it has complete offering of contrast products for X-ray, MRI, Interventional Radiology, along with a range of injectors and medical equipment to improve diagnosis and treatment of patients.
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Philips Medical Systems
Philips is one of the world’s leading healthcare technology companies. We are committed to understanding patients’ and caregivers’ needs and improving the experience of care.
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Siemens Healthcare GmbH
Responsibility, excellence and innovation have been the basis for Siemens’ success for over 160 years. Siemens Magnetic Resonance innovates to advance human health – in every hospital or practice or lab or university. Whether you are just beginning to work with MRI or you are at the forefront of research.
usa.healthcare.siemens.com
SMRA 2017 Update

It has now been 2 years since we incorporated as a non-profit entity into a fully fledged independent society. Over the last couple of years, we have been busy trying to advance the interests and objectives of the SMRA society. We have established a formal collaboration with the Society of Cardiovascular MR (note the endorsement of SCMR at this year’s meeting), several committees have been formed including communications, nominations and publications, we are working on a new website and logo (thank you Kevin DeMarco and Giles Roditi) and we are also planning joint papers with SCMR. We are still a nascent society and we must continue to grow and expand however it is also incumbent on us to keep alive the spirit of the “MRA club”, a small group of friends bound together by a common goal of advancing science and shared interests in expanding the field.

SMRA 2017 Endorsers

International Society of Magnetic Resonance in Medicine
A multi-disciplinary nonprofit association that promotes innovation, development, and application of magnetic resonance techniques in medicine and biology throughout the world.
ismrm.org

Society for Cardiovascular Magnetic Resonance
The principal international, independent organization committed to the further development of CMR through education, quality control, research, and training.
scmr.org

Radiology Society of South Africa
The RSSA promotes constructive interaction and co-operation between radiologists and our colleagues in affiliated industries. The RSSA endorses and has adopted the guidelines of the Australasian College of Radiology.
rssa.co.za
The Society for Magnetic Resonance Angiography (SMRA) was founded in 1989 as the MR Angio Club to bring together scientists, clinicians and industry with a common interest in MR Angiography (MRA). The society’s annual conference is widely recognized as the premier international conference in MR Angiography. Each year, prominent researchers and clinicians come from all over the world to attend this event and present their most up to date research results and exchange ideas. MR-related vendors also showcase their state-of-the-art products, technical advances, and clinical applications in an engaging environment intended to foster new connections and collaborations.

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— Richard Frayne — President Elect
— Tim Leiner — Secretary
— Kevin DeMarco — Treasurer
— Chuck Dumoulin
— Jeff Maki
— David Saloner
— Giles Roditi

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— Sally Candy
— James Carr
— Michael Hope
— Debiao Li
— Ernesta Meintjies
— Iliana Rodriguez
— Leon Janse van Rensburg

2017 Organizing Committee
— David Saloner
— Janette Wallace
— Johanne Langford
— Donna Lyons
— Iliana Rodriguez

2017 Organizing Committee — South Africa
— Leon Janse van Rensburg
— Suné van Rooyen
— Dawne Johnson

2017 Volunteers
We would like to gratefully acknowledge all the staff and student volunteers for contributing their time and energy into making this event a success! It wouldn’t have been possible without you. Thank you!
SMRA 2018
www.smrangio.org

30th Annual International Conference
A SuperCool MRA Experience

Glasgow
Kelvin Gallery | University of Glasgow

Pre-Conference Educational Workshop
Tuesday, August 28th

Main Conference
Wednesday, August 29th
Thursday, August 30th
Friday, August 31st

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