Pre-conference Educational workshop
August 27th

31st Annual Conference
Hosts: Jean-Michel Serfaty and Philippe Douek
President: Michael Markl
Program at a Glance

Pre-conference Educational Workshop
Tuesday, August 27th (Registration at 07:30)
08:30 Welcome, and Announcements
08:40 Opening Remarks
08:45 Workshop 1: The Basics I – MR Techniques for Vessel Imaging
10:30 Coffee Break
11:00 Workshop 2: The Basics II – MR Techniques for Vessel Imaging
12:40 Lunch
13:30 Workshop 3: Clinical Applications I
15:20 Coffee Break
15:40 Session 4: Clinical Applications II
17:20 Closing Remarks
19:00 Welcome Reception: Brasserie St. Felix

Main Conference Scientific Sessions and Poster Exhibition
Wednesday, August 28th (Registration at 07:30)
08:30 Welcome, Introduction, Announcements, and Opening Remarks
08:45 Plenary Talk I
09:15 Session I: Emerging Techniques in MRA / 4D flow / AI
10:45 Coffee Break (10:45 to 11:15)
11:15 Session II: Emerging Techniques in MRA / 4D flow / AI
12:45 Lunch (12:45 to 13:45)
13:45 Session III: Abdominal MRA and Peripheral
14:30 Point and Counterpoint
15:00 Coffee Break (15:00 to 15:30)
15:30 Session IV: Abdominal and Peripheral MRA
20:00 Evening Event: Les Machines de l’Ile

Thursday, August 29th (Registration at 07:30)
08:30 Welcome, Introduction, Announcements, and Opening Remarks
08:45 Plenary Talk II
09:15 Session V: Cardiac MRA
10:40 Coffee Break (10:40 to 11:10)
11:10 Session VI: Coronary MRA
12:50 Lunch and Poster Viewing (12:50 to 13:45)
13:45 Session VII: Vessel Wall MRI
14:30 Point and Counterpoint
15:00 Coffee Break (15:00 to 15:30)
15:30 Session VIII: Vessel Wall MRI
18:00 Evening Event: Château de la Poterie

Friday, August 30th (Registration at 07:30)
08:30 Welcome, Introduction, Announcements, and Opening Remarks
08:45 Plenary Talk III
09:15 Session IX: 4D-FLOW MRA in the Aorta
10:20 Coffee Break (10:20 to 10:55)
10:55 Session X: 4D-FLOW MRA in the Aorta
12:01 Point and Counterpoint
12:40 Lunch and Poster Viewing (12:40 to 13:45)
13:45 Session XI: Contrast MRA
14:45 Point and Counterpoint
15:15 Coffee Break (15:15 to 15:45)
15:45 Session XII: Head and Neck MRA
16:40 Closing Session: Awards, Thank You, 2020 SMRA Conference
Welcome to Nantes and to the 31st Annual Meeting of the Society for Magnetic Resonance Angiography (SRMA). Over more than 30 years, the SMRA has grown to the pre-eminent annual meeting to discuss advances in the field of MRA. The scientific sessions have become the gathering of scientists, clinicians, corporate partners, trainees and others who are interested in MRA. Many innovations in this field were first presented and discussed at one of our meetings and these advances are now impacting diagnostic imaging and clinical care worldwide.

I would like to extend a special welcome to those who are attending their first meeting. I would wholeheartedly encourage you to participate fully in the discussion that occurs during the scientific sessions, lunches and breaks, and that often continue into the evening social events. Engaging with our corporate partners and exhibitors is always another highlight.

We will meet at La Cité des Congrès de Nantes, the city of Jules Vernes. Verne was born on 8 February 1828, on a small artificial island on the Loire River within the town of Nantes. Verne's collaboration with the publisher Pierre-Jules Hetzel led to the creation of the Voyages extraordinaires, a widely popular series of scrupulously researched adventure novels including Journey to the Center of the Earth (1864), Twenty Thousand Leagues Under the Sea (1870), and Around the World in Eighty Days (1873). I am sure that his adventurous spirit will serve as a stimulus for innovative imaging presentations and discussions at this year's SMRA meeting.

Jean-Michel Serfaty, Philippe Douek and their local team have done a fabulous job of developing an engaging scientific and social program. Jointly with the SMRA board, they have developed an outstanding pre-conference educational workshop as well as innovative 3-day scientific sessions. A number of new program elements will be featured this year, including an early career mentoring session, diversity session, point-counterpoint debates, breakout hands-on software sessions, and the inaugural 'Kazuhiko Sadamoto Lecture'. Our society secretariat also played an invaluable role keeping track of the many details, both big and small, associated with the meeting; a special thank you goes out to Kevin Henley, Johanne Langford and Janette Wallace.

The core of the meeting consists of oral and poster presentations given by many of you. As you will see in this program book, the pace and quality of innovation in our field remains high. Engaging early career scientist and trainees in our society has been critical to our success and I am pleased to see the number of talented young investigators who will be competing for the Potchen and Passariello Awards (best and poster presentations). In this context, we would like to acknowledge the considerable support provided by both the US National Institute of Health, as well at the Martin R Prince Charitable Foundation who together have helped fund the attendance of 30 early career scientists and trainees at the 2019 SMRA meeting.

Our corporate sponsors are essential to the continued success of this meeting. Through their generous support, they allow us to continue to develop and host the SMRA annual meeting in locations around the world. Please stop by their exhibits and thank them for their ongoing support. I send a sincere thank you to all of our sponsors.

I hope that you find our meeting to be a stimulating and enriching experience. During this year’s meeting, I will pass the Presidential Gavel onto Giles Roditi. Giles has been invaluable in helping organize this year’s meeting and is now working hard with Debiao Li and Paul Finn to arrange the 2020 SMRA meeting. I look forward to seeing you again at next year’s meeting in Los Angeles, California.

Sincerely,

Michael Markl, PhD
President: Society of Magnetic Resonance Angiography
Educational Workshop

Tuesday, August 27th (Registration at 07:30)
08:30 Welcome, and Announcements ( 08:30 - 08:40 )
08:40 Opening Remarks ( 08:40 - 08:45 )

Workshop 1: The Basics I — MR Techniques for Vessel Imaging
Moderator: Charles Dumoulin
08:45 Introduction to MRA and K-space
Charles Dumoulin — University of Cincinnati
09:00 Imaging acceleration, compressed sensing
Monica Sigovan — University of Lyon
09:15 Phase Contrast: 2D, 3D and 4D Flow
Thekla Oechtering — Universitätsklinikum Schleswig - Holstein
09:35 Non-Contrast MRA Techniques: Basic to Advanced
Ioannis Koktzoglou — NorthShore University HealthSystem - Evanston
09:55 Contrast Enhanced MRA: 3D, Dynamic
Tim Leiner — Utrecht University Medical Center
10:10 How to Develop MRA in Clinical Practice
Jeremy Collins — Mayo Clinic - Rochester
10:25 Discussion
All Speakers
10:30 Coffee Break ( 10:30 – 11:00 )

Workshop 2: The Basics II — MR Techniques for Vessel Imaging
Moderator: Claudia Pietro
11:00 What is Artificial Intelligence and Machine Learning?
Diana Mateus — University of Nantes
11:15 Artificial Intelligence and Machine Learning in MRA
Claudia Pietro — King’s College - London
11:30 MRA Image Processing and Quantification
Nadija Kachenoura — French Institute of Health and Medical Research - Paris
11:50 Vessel Structure and Function: PWV, Compliance, Hemodynamics
Oliver Wieben — University of Wisconsin - Madison
12:10 Motion Adapted Cardiothoracic MRI/A + Coronary MRA
Matthias Stuber — University of Lausanne
12:30 Discussion
All speakers
12:40 Lunch ( 12:40 - 13:30 )
### Workshop 3: Clinical Applications I
**Moderator:** Chun Yuan

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<tr>
<th>Time</th>
<th>Topic</th>
<th>Speaker</th>
<th>Institution</th>
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<tbody>
<tr>
<td>13:30</td>
<td>Neuro Intracranial (Aneurysms and AVMs)</td>
<td>Kevin DeMarco</td>
<td>Walter Reed National Military Medical Center - Bethesda</td>
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<td>14:00</td>
<td>Vessel Wall Imaging — Head and Neck</td>
<td>Chun Yuan</td>
<td>University of Washington - Seattle</td>
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<td>14:15</td>
<td>Thoracic Aorta</td>
<td>Alban Radheuil</td>
<td>French Institute of Health and Medical Research - Paris</td>
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<td>14:30</td>
<td>Abdominal Aorta</td>
<td>Jeremy Collins</td>
<td>Mayo Clinic - Rochester</td>
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<td>14:45</td>
<td>Pulmonary MRA</td>
<td>Christopher Francois</td>
<td>University of Wisconsin - Madison</td>
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<td>15:00</td>
<td>Heart and Valves</td>
<td>Jean-Francois Paul</td>
<td>Institut Mutualiste Montsouris - Paris</td>
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<td>15:10</td>
<td>Discussion</td>
<td>All speakers</td>
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<td>15:20</td>
<td>Coffee Break (15:20 - 15:40)</td>
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### Workshop 4: Clinical Applications II
**Moderator:** Elizabeth Hecht

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<th>Topic</th>
<th>Speaker</th>
<th>Institution</th>
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<tbody>
<tr>
<td>15:40</td>
<td>Renovascular MRA</td>
<td>Giles Roditi</td>
<td>University of Glasgow</td>
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<td>15:55</td>
<td>Abdomen Extra-Renal</td>
<td>Elizabeth Hecht</td>
<td>Columbia University - New York</td>
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<td>16:10</td>
<td>Venous</td>
<td>Francine Touveny</td>
<td>University of Nantes</td>
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<td>16:25</td>
<td>Peripheral</td>
<td>Peter Douglas</td>
<td>University of Glasgow</td>
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<td>16:40</td>
<td>Pediatric Vessel Imaging</td>
<td>Paul Finn</td>
<td>University of California - Los Angeles</td>
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<td>16:55</td>
<td>Update on Contrast Agents</td>
<td>Martin Prince</td>
<td>Weill Cornell Medicine - New York</td>
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<td>17:10</td>
<td>Discussion</td>
<td>All speakers</td>
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<td>17:20</td>
<td>Closing Remarks</td>
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**19:00 Welcome Reception: Brasserie St. Felix**
1 Rue Lefèvre Utile, 44000 Nantes
Scientific Sessions

Wednesday, August 28th (Registration at 07:30)
08:30 Welcome, Introduction, and Announcements
08:40 Opening Remarks
08:45 Plenary Talk I: AI - Impact on Clinicians, Patients Healthcare, Business Opportunities
   Nassir Navab — Johns Hopkins University - Baltimore

Session I: Emerging Techniques in MRA / 4D flow / AI
09:15 Introduction, and Moderation — Catherine Ludman, and Monica Sigovan
09:20 Highly Accelerated NCE-MRA Using k-space Subtraction with Phase and Intensity Correction (KSPIC): Improved Reconstruction Accuracy and Background Suppression
   Hao Li — Department of Radiology, University of Cambridge
09:30 Fresh Blood Imaging (FBI) with Centric ky-kz Trajectory and Exponential Refocusing Flip Angle: Comparison with Standard FBI
   Mitsue Miyazaki — University of California - San Diego - La Jolla
09:40 High Resolution Multi-echo Time-of-flight MRA for Imaging of Intra-Renal Vasculature at 7T
   Catherine Ludman — Nottingham Nottingham University Hospitals NHS Trust
09:50 Acceleration Mapping in the Human Aorta at 7T
   Simon Schmidt — German Cancer Research Center (DKFZ) - Heidelberg
10:00 Validation of Hemodynamic Analysis using High Spatial Resolution 3-dimentional Phase-Contrast Magnetic Resonance Imaging with 7-tesla MR Scanner
   Haruo Isoda — Nagoya Brain and Mind Research Center, Nagoya University
10:10 Methemoglobinemia and T1 Contrast
   Seong-Eun Kim — University of Utah - Salt Lake City
10:20 Initial Results of Reynolds Stress Tensor Quantification using Flow-MRF
   Sebastian Flassbeck — German Cancer Research Center (DKFZ) - Heidelberg
10:30 Is it Possible to Improve Near-wall 4D-flow MRI Measurements with Deep Learning?
   Vitaliy Rayz — Purdue University - West Lafayette

Session I: Oral Posters
10:40 Ungated QISS MR Angiography of the Peripheral Arteries using a Golden Angle Readout and Temporal Maximum Intensity Projection
   Ioannis Koktzoglou — NorthShore University HealthSystem - Evanston
10:42 High-resolution MR Angiography of the Peripheral and Carotid Arteries using Stack-of-stars QISS
   Ioannis Koktzoglou — NorthShore University HealthSystem - Evanston
10:44 Accelerated 4D-flow MRI using Machine Learning (ML) Enabled Three Point Flow Encoding
   Dahan Kim — University of Wisconsin - Wisconsin
10:45 Coffee Break ( 10:45 to 11:15 )
Wednesday, August 28th

Session II: Emerging Techniques in MRA / 4D flow / AI
11:15 Introduction, and Moderation — Oliver Wieben, and Said Moussaoui
11:20 Deep Learning for Fully Automated Preprocessing and 3D Segmentation of Aortic 4D-flow MRI
   Michael Scott — Northwestern University - Chicago
11:30 Artificial Intelligence Allows for Fully Automated 3D Segmentation of the Aorta from 4D-flow MRI
   Haben Berhane — Lurie Childrens Hospital of Chicago
11:40 An in Vitro and in Silico Validation Study for PC MRI and Derived Bio-markers
   Marco Castagna — Institut du Thorax de Université de Nantes and LHEEA Ecole Centrale Nantes
11:50 Regularization Parameter Optimization for Intracranial 4D-flow Imaging with Compressed Sensing
   Maria Aristova — Northwestern University - Chicago
12:00 Fusion of Computational Fluid Dynamics Flow Data into 4D-flow MRI Using Machine Learning
   Kevin Johnson — University of Wisconsin - Madison
   Ioannis Koktzoglou — NorthShore University HealthSystem - Evanston
12:20 Initial Cardiac MR Experience with a Novel 84-element Coil
   Martijn Froeling — Utrecht University Medical Center

Session II: Oral Posters
12:30 Wall Shear Stress Quantification in the Context of 4D-flow Magnetic Resonance Imaging Simulation on Carotids
   Sébastien Levilly — Ecole Centrale de Nantes - Laboratoire des Sciences du Numérique de Nantes
12:32 Automating Background Phase Correction in Cranial 4D-flow MRI
   Grant Roberts — University of Wisconsin - Madison
12:34 Twisting Jet through Stenotic Bicuspid Aortic Valve, a 4D-flow MRA Insight
   Jeesoo Lee — Northwestern University - Chicago
12:36 Challenging Clinical Case: TBD
12:45 Lunch and Poster Viewing (12:45 to 13:45)
12:45 Early Career Mentoring (12:45 to 13:45)
   Speed mentoring session sponsored by the Early Career Committee

Trainee competing for Potchen or Passariello Award
Scientific Sessions

Session III: Abdominal MRA and Peripheral
13:45  Introduction, and Moderation — Elizabeth Hecht, and Peter Douglas
13:50  Free-breathing Fast Low-angle Shot Quiescent-interval Slice-selective MR Angiography for Improved Detection of Vascular Stenoses in the Pelvis and Abdomen
   Ioannis Koktzoglou — NorthShore University HealthSystem - Evanston
14:00  Non-contrast-enhanced Abdominal MRA at 3T using Velocity-selective Pulse Trains
   ••• Dan Zhu — Department of Biomedical Engineering, Johns Hopkins School of Medicine - Baltimore
14:10  FFR and Pressure Drop Assessment Across Severe Iliac Artery Stenosis: 4D-fow MRI-based Computational Fluid Dynamics vs. In-vivo Measurements
   ••• Simeon Skopalik — University of Glasgow
14:20  Improved Magnetic Resonance Angiographic Contrast Using Deep Transfer Learning Reconstruction
   Ioannis Koktzoglou — NorthShore University HealthSystem - Evanston

Session III: Point / Counterpoint
14:30  Is MRA a Good Technique to Plan Radiology Guided Interventions or Surgery?
   Moderator: Winfried Willinek
   Speaker 1, Point (pro): Scott Resnick
   Speaker 2, Counterpoint (con): Yann Goueffic

15:00 Coffee Break (15:00 to 15:30)
Session IV: Abdominal and Peripheral MRA
Moderators — Elizabeth Hecht, and Peter Douglas

15:30  4D-flow MRI and Doppler Wire Arterial Flow Analysis Pre-/Post-liver Embolization in Swine
  ••• Carson Hoffman — University of Wisconsin - Madison

15:40  Elucidating Vascular Etiologies of Erectile Dysfunction Using Dynamic MR Angiography
  ••• Alexandra Roudenko — Weill Cornell Medical Center, New York Presbyterian

15:50  Prevalence of IVC Stenosis in Autosomal Dominant Polycystic Kidney Disease
  Martin Prince — Weill Cornell Medical Center

16:00  Non-invasive Assessment of Splanchnic Flow in Patients using Mesenteric Ischaemia using MRI 4D-flow a Pilot Study
  Giles Roditi — University of Glasgow

16:10  Improved Magnetic Resonance Angiographic Contrast Using Deep Transfer Learning Reconstruction
  Ioannis Koktzoglou — NorthShore University HealthSystem - Evanston

16:20  Findings in Potential Living Donors of Kidneys: Retrospective Analysis of ceMRA/MRV (2009-2018)
  Manuela Aschauer — Medical University Graz

Session IV: Oral Posters

16:30  Application of kZ-Space-based Processing for Providing Improved Through-plane Resolution in 2D Multi-slice Imaging of the Prostate
  Stephen Riederer — Mayo Clinic - Rochester

16:32  Phase Contrast MR Renal Blood Flow Characterizes Disease Progression in Autosomal Dominant Polycystic Kidney Disease
  Hreedi Dev — Weill Cornell Medical Center

16:34  Evaluating the Vessel Wall Permeability of Abdominal Aortic Aneurysm using 3D Dynamic Contrast-enhanced MRI: A Feasibility Study
  ••• Bing Tian — Department of Radiology, Changhai Hospital - Shanghai

16:36  Clinical Challenges
  Co-moderators: Kevin DeMarco, Giles Roditi, and Elizabeth Hecht

20:00  Evening Event: Les Machines de l’île (No Transportation available)
  Boulevard Léon Bureau, 44200 Nantes

••• Trainnee competing for Potchen or Passariello Award
Thursday, August 29th (Registration at 07:30)

08:30 Welcome, Introduction, and Announcements
08:40 Opening Remarks

08:45 Plenary Talk II — Kazuhiko Sadamoto Inaugural Lecture: Introduction
       Kazuhiko Sadamoto — Ehime University

08:50 Value of Imaging from a Health System Perspective: A World Perspective
       Howard Chrisman — Northwestern University - Chicago

Session V: Cardiac MRA

09:15 Introduction, and Moderation — Matthias Stuber, and Jean-François Deux
09:20 Free-running 3D Joint Myocardial T1 and T2 Mapping with Whole-heart
       Coverage and Isotropic Spatial Resolution
       Haikun Qi — King’s College - London
09:30 Biventricular Velocities and T2-Relaxation Times are Altered in in Heart
       Transplant Patients with Cardiac Allograft Vasculopathy
       Roberto Sarnari — Northwestern University - Chicago
09:40 Single-bolus Quantitative 3D Myocardial Perfusion Imaging without Breath
       Holds or ECG Gating via Respiratory-compensated MR Multitasking
       Anthony Christodoulou — Cedars-Sinai Medical Center - Los Angeles
09:50 Quantifying Mitral Valve Regurgitation from 4D-flow MRI using
       Semi-automated Flow Tracking
       Carmen Blanken — Academic Medical Centre, Universiteit van Amsterdam

10:00 3D Whole-heart Isotropic Resolution Motion Compensated Joint T1/T2
       Mapping
       Giorgia Milotta — King’s College - London

Session V: Oral Posters

10:10 The Effect of Cellular Rejection in Heart Transplant Patients Monitored for
       Cardiac Allograft Vasculopathy
       Roberto Sarnari — Northwestern University - Chicago
10:12 Chemical Exchange Saturation Transfer (CEST) Cardiovascular Magnetic
       Resonance for Assessment of Amyloid Light-chain Amyloidosis Patients
       Debiao Li — Cedars-Sinai Medical Center - Los Angeles
10:14 Quantifying Dynamic Characteristics of BAV and Associated Hemodynamics
       using Same-day Echocardiography and MRI
       Jeesoo Lee — Northwestern University - Chicago
10:16 A Single Reference Variable Flip Angle Method for Accurate Dynamic T1
       Quantification
       Seong-Eun Kim — University of Utah - Salt lake City
10:18 Self-navigated, Free-breathing 3D Left Atrial Late Gadolinium Enhancement
       MRI at 1.5 Tesla: A Preliminary Study for Evaluation of Image Quality and
       Quantification of Atrial Fibrosis in patients with Atrial Fibrillation
       Suvai Gunasekaran — Northwestern University - Chicago
Thursday, August 29th

Session V: Oral Posters (Continued)
10:20 3D Whole-heart Free-breathing qBOOST-T2 Mapping

••• Giorgia Milotta — King’s College - London


••• Daming Shen — Northwestern University - Chicago

10:24 Artificial Intelligence Based Semi-automated Quantification of Left Atrial Flow Dynamics in Atrial Fibrillation

••• Justin Baraboo — Northwestern University - Evanston

10:30 Gold Sponsor Vendor Talk — Philips: Advances in Cardiovascular MR

Mark Kouwenhoven

10:40 Coffee Break (10:40 to 11:10)

Session VI: Coronary MRA

11:10 Introduction, and Moderation — Rene Botnar, and Yibin Xie

11:30 Contrast Enhanced Compressed Sensing Coronary MRA: Preliminary Results

Teruhito Mochizuki — Radiology, Ehime University School of Medicine

11:40 3D Whole-heart Imaging with Orientation-independent 2D Image Navigators

Karl Kunze — Siemens Healthcare Ltd. - London

11:50 A Multi-scale Variational Neural Network for Accelerating Free-breathing Whole-heart 3D Coronary MR Angiography

Niccolo Fuin — Kings’s College - London

12:00 A Similarity-Based Data Clustering Approach for Fast Reconstruction of Untriggered and Ungated Whole-Heart MRA

••• John Heerfordt — Lausanne University Hospital (CHUV)

12:10 3D Whole-Heart Sub-Millimeter Isotropic Resolution Coronary MRA with Non-rigid Motion-compensated PROST

Aurelien Bustin — King’s College - London

12:20 Towards Single Breath-hold Whole-heart Coronary MRA Via Cross-domain Deep Learning

Yibin Xie — Cedars-Sinai Medical Center - Los Angeles

12:30 Gold Sponsor Vendor Talk — Bayer: Optimizing Contrast Use for Cardiac MRI

James Carr

12:40 Challenging Clinical Case: TBD

12:50 Lunch and Poster Viewing (12:50 to 13:45)
Session VII: Vessel Wall MRI
13:45 Introduction, and Moderation — David Saloner, and Liliana Ma
13:50 Progression of Plaque Burden on Intracranial Atherosclerosis Associated with Recurrent Stroke: A Follow-up Study by High-resolution Magnetic Resonance Imaging Shanghai
  ••• Zhang Shi — Department of Radiology, Shanghai Hospital - Shanghai
14:00 Proximal Region of Carotid Atherosclerotic Plaque Shows more Intraplaque Hemorrhage: The Plaque At RISK (PARISk) Study
  Eline Kooi — Maastricht University Medical Center
14:10 Start of antiplatelet therapy increases the prevalence of intraplaque Hemorrhage in Patients with Advanced Carotid Artery Lesions: A Longitudinal MR Imaging Study
  Eline Kooi — Maastricht University Medical Center

Session VII: Oral Posters
14:20 Performance of a dedicated carotid PET/MRI coil
  Eline Kooi — Maastricht University Medical Center
14:22 Radiomic Characteristics of Intracranial Atherosclerotic Plaques in Vitro: An initial study using high resolution MRI
  ••• Zhang Shi — Department of Radiology, Shanghai Hospital - Shanghai
14:24 Determining the Number of Neck Shape-specific Coils Required to Image the General Population
  Rock Hadley — University of Utah - Salt Lake City
14:26 Intracranial Vessel Wall Imaging of Cerebral Amyloid Angiopathy and Cerebral Amyloid Angiopathy-Related Inflammation
  Vance Lehman — Mayo Clinic - Rochester
14:28 The Assessment Value of Plaque Enhancement Load of Multiple Cerebrovascular Beds in New Cerebral Infarction Based on 3D MR Vessel Wall Imaging
  Bin Cui — Peking University, Aerospace Clinical College of Medicine - Beijing

Session VII: Point / Counterpoint
14:30 Which do we Need more than Vascular Luminal Imaging: Plaque or Flow Imaging?
  Moderator: David Saloner
  Value of Flow Imaging for Vascular Assessment
  Speaker 1, Point (flow): Mike Hope
  Value of Plaque Imaging for Vascular Assessment
  Speaker 2, Counterpoint (plaque): Eline Kooi

15:00 Coffee Break ( 15:00 to 15:30 )
Thursday, August 29th

Session VIII: Vessel Wall MRI - Super-moderator TBA
Moderators — Chun Yuan, and Laura Eisenmenger

15:30 Wall Enhancement on Black Blood MRI is an Independent Predictor of Symptomatic Status of Unruptured Intracranial Saccular Aneurysm
  ••• Chengcheng Zhu — University of California - San Francisco

15:40 Co-existing Extracranial and Intracranial Artery Atherosclerotic Plaques Predict Future Cardiovascular Events: A MR Vessel Wall Imaging Study
  ••• Jin Li — Nanjing Medical University

15:50 Is It Necessary for Patients with Internal Carotid Artery Occlusion to Undergo 3D Head-neck MR Vessel Wall Imaging Before Endovascular Revascularization
  Huilin Zhao — Renji Hospital, Shanghai jiao Tong University School of Medicine

Session VIII: Oral Posters

16:00 Association between Intraplaque Hemorrhage and Ipsilateral Cerebral Blood Flow in Patients with Carotid Moderate to Severe Stenosis: A Multi-contrast MR Vessel Wall Imaging Study
  ••• Ran Huo — Peking University Third Hospital

16:02 Plaque Burden of Carotid Atherosclerotic Stenosis Influences Collateral Circulation
  Huimin Xu — Department of Radiology, Peking University Third Hospital

16:04 Deep Learning for Domain-invariant MR Carotid Artery Wall Segmentation
  Anna Danko — University of Calgary

16:06 Quantitative Assessment of Cerebral Aneurysms on Vessel Wall Imaging MRI
  Dennis Parker — University of Utah - Salt Lake City

16:10 Vessel Wall Imaging in Previously Unruptured, Untreated Brain Arteriovenous Malformations
  Laura Eisenmenger — University of Wisconsin - Madison

16:12 Assessing MS Lesions with Ferumoxytol Enhanced Susceptibility Weighted FLAIR
  Mark Haacke — Wayne State University - Detroit

16:14 Compare the Characteristics of Different Types Spontaneous Intracranial Artery Dissection on High Resolution MRI Vessel Wall Imaging
  Bing Tian — Department of Radiology, Changhai Hospital - Shanghai

16:16 An automatic grading method for severity of white matter lesions
  ••• Xiaomeng Wu — Beijing Institute of Technology

16:18 Application of ASL Technique for Carotid Artery Stenosis: Initial Experience
  Keiji Igase — Ehime University - Matsuyama

16:20 Imaging the Circle of Willis with 3D Time of Flight MRA: A Comparison Between Spiral and Cartesian Acquisition at 1.5T
  Matthew Lanier — Philips Healthcare - Cincinnati

16:22 Gold Sponsor Vendor Talk — Siemens: Advances in Flow Imaging
  Ning Jin

16:30 Technical Challenges
Co-moderators: Wiro Niessen, Giles Roditi

18:00 Evening Event: Château de la Poterie (Boarding: La Cite des Congres)
  La Poterie, 44240 La Chapelle-sur-Erdre
  ••• Trainnee competing for Potchen or Passariello Award
Scientific Sessions

Friday, August 30th (Registration at 07:30)

07:30 Diversity Session (07:30 to 08:30)
Diversity session sponsored by the Early Career Committee

08:30 Welcome, Introduction, and Announcements
08:40 Opening Remarks

08:45 Plenary Talk III: Politics and Lobbying
Getting an Imaging Technique where it Should Be
Jean-Pierre Pruvo — Centre Hospitalier Régional Universitaire de Lille

Session IX: 4D-FLOW MRA in the Aorta

09:15 Introduction, and Moderation — Alban Redheuil, and Gerhard Laub
9:20 4D-flow MRI Quantification of Flow Disorganization in Aging and Aortic Dilation
  Sophia Houriez-Gombaud-Saintonge — Laboratoire d’Imagerie Biomédicale - Paris
9:30 Feasibility and Wall Shear Stress Quantification Accuracy of Compressed Sensing Aortic 4D-flow MRI: A Dual-center, Dual-field Strength (1.5, 3T) Study
  Emilie Bollache — Laboratory of Biomedical Imaging, Sorbonne Université
9:40 Highly Accelerated Compressed Sensing 4D-flow for Evaluation of Aortic Hemodynamics
  Ashitha Pathrose — Northwestern University - Chicago
9:50 Arterial Stiffness in Bicuspid or Tricuspid Aortic Valve Aortopathy Assessed by 4D-flow MRI
  Ariel Fernando Pascaner — Universidad Favaloro - Buenos Aires

Session IX: Oral Posters

10:00 Optimisation of Technical Factors for Contrast Enhanced MRA for Thoracic Outlet Syndrome
  Lirong Yin — Singapore General Hospital
10:02 In vitro 4D Flow MRI high and Low Velocity Encoding Strategies Corroborate in Vivo 4D-flow Hemodynamics in the False Lumen of Type B Aortic Dissection Patients
  Bradley Allen — University of Wisconsin - Madison
10:04 4D Phase-contrast MRI Study of the Hemodynamic Changes in the Aorta and its Branches Before and After Endovascular Treatment of the Aortic Dissection
  Benoit Cosset — Université de Lyon - Bron
10:06 4D Hemodynamic Signatures: A Novel Concept for the Evaluation of Abnormal Flow Dynamics in Aortic Valve Disease
  Mohammed S.M. Elbaz — Northwestern University - Chicago

10:10 Coffee Break (10:10 to 10:55)
Session X: 4D-FLOW MRA in the Aorta

Moderators — Elie Mousseau, Emilie Bollache

10:55 4D Flow MRI-derived Pulse Wave Velocity Characterization in the Normal Aorta
   ••• Kelly Jarvis — Northwestern University - Chicago

11:05 Effect of Beta-blocker Therapy on Aortic 3D Hemodynamics in Patients with Bicuspid Aortic Valve
   ••• Amirhossein Mozafarykhamseh — Northwestern University - Chicago

11:15 Pressure and Flow Interplay in Aortic Dilation using 4D-flow Magnetic Resonance Imaging
   ••• Bouaou Kevin — Sorbonne Université - Paris

11:25 Anatomic and Hemodynamic Predictors of False Lumen Growth Rate Among Patients with Medically Managed Type B Aortic Dissection
   Nicholas Burris — University of Michigan - Ann Arbor

11:35 3D MRI Morphometric Changes in Ascending Thoracic Aortic Aneurysm: Going Beyond Diameters
   Thomas Dietenbeck — Laboratoire d'Imagerie Biomédicale - Paris

Session X: Oral Posters

11:45 Chest Wall Deformity from Tissue Expanders Identified on Chest MR Angiography of Perforator Flap Angiography Studies
   Hanieh Attari — Weill Cornell Medicine - Sunnyside

11:47 Assessment of Pulmonary Artery Stiffness in Patients With Heart Failure Using Cardiac Magnetic Resonance
   ••• Xuewen Hou — Charité University Medicine Berlin and German Heart Institute Berlin

11:49 Correlations Between Cardiothoracic MRI and External Seismocardiogram Recordings
   ••• Ethan Johnson — Northwestern University - Evanston

11:51 Gold Sponsor Vendor Talk — Guerbet: TBD

Session X: Point / Counterpoint

12:00 MR Venography and Thrombus MR Imaging: Useful or Not?
   Co-moderator: Francine Touveny, Martin Prince
   Speaker 1, Point (pro): Giles Roditi
   Speaker 2, Counterpoint (con): Jean-Francois Heautot

12:30 Challenging Clinical Case: TBD

12:40 Lunch and Poster Viewing (12:40 to 13:45)

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Trainee competing for Potchen or Passariello Award
Scientific Sessions

Session XI: Contrast MRA
13:45  Introduction, and Moderation — Paul Finn, and Leonardo Rivera Rivera
13:50  Efficacy of Gadoterate Meglumine enhanced MRA in Evaluating Thoracic Aorta Diseases Compared with Gadobutrol Enhanced MRA
  ••• Alyssa Singer — Northwestern University - Chicago
14:00  5D-flow MRI for Cardiac and Respiratory Motion‐resolved 3D Hemodynamics Using Gadoterate Meglumine and Ferumoxytol
  ••• Liliana Ma — Northwestern University - Chicago
14:10  Evaluation of Contrast Dynamics in the Juvenile German Swine as Applied to CE‐MRA: A Study Using 4 Different Gadolinium Contrast Agents
  Jeffrey Maki — University of Colorado - Aurora
  ••• Sokratis Stoumpos — Queen Elizabeth University Hospital - Glasgow
14:30  Ferumoxytol-Enhanced MRA for Evaluation of the Pulmonary Vascular Network
  Arash Bedayat — University of California - Los Angeles

Session XI: Oral Posters
14:40  The Effect of the Injection Dose, Rate and Concentration on Carotid Dynamic Contrast‐enhanced MRI: A Simulation Study
  ••• Yajie Wang — Tsinghua University - Beijing
14:42  Correlation Based Perfusion Mapping Using Low‐dose Time‐resolved Contrast Enhanced MRA: Preloaded Contrast Media does not Affect its Image Quality
  Bum‐soo Kim — Seoul St.Mary’s Hospital, The Catholic University of Korea

Session XI: Point / Counterpoint
14:45  We should Care about Gadolinium Retention
  Moderator: Olivier Clement
  Speaker 1, Point (pro): Mitsue Miyazaki
  Speaker 2, Counterpoint (con): Jeff Maki

15:15 - Coffee Break (15:15 to 15:45)
Friday, August 30th

Session XII: Head and Neck MRA
15:45 Introduction, and Moderation — Kevin de Marco, and Hubert Desal
15:50 Towards Automated Cranial 4D Flow Cranial Analysis
  • Carson Hoffman — NorthShore University HealthSystem - Evanston
16:00 Multi-scale Brain Pulsatility Assessment Using Accelerated Spiral MRI: Initial Feasibility
  • Leonardo Rivera — University of Wisconsin - Madison
16:10 MRI Quantitative T2* Mapping to Predict Dominant Composition of In Vitro Thrombus
  Romain Bourcier — University Hospital of Nantes
16:20 Multi-Modality Flow Analysis in Cerebral Aneurysms: Mass Conservation in 4D Flow and CFD Data
  Vitaliy Rayz — University of Wisconsin - Madison
16:30 Image processing of Phase contrast Magnetic Resonance Imaging to Investigate Cerebral Blood Fows
  Olivier Balédent — Purdue University - West Lafayette

Closing Session ( 16:40 to 17:40 )

Acknowledgement of the SMRA Secretariat and Local Organizing Committee
Jean-Michel Serfaty

Presentation of the Potchen Award and Passariello Awards
Philippe Douek

Introduction of new SMRA Board Member and President-Elect
Michael Markl

Announcement of and Invitation to the 2020 SMRA Meeting
Giles Roditi

Closing Remarks
Evening Event: TBD

Trainee competing for Potchen or Passariello Award
Special Sessions

Poster Exhibition
All Oral Poster presentation will be accompanied by a tradition printed poster.

Posters will be displayed throughout the conference (August 28th-30th) in the main conference venue Mezzanine level 2.

Speed mentoring session sponsored by the Early Career Committee
This inaugural session will focus on connecting trainees in the early phases of their careers with experienced individuals with a wide array of specialties. The session will start with a panel discussion and break out into "speed mentoring", where participants rotate between mentors for brief introductions to foster networking and discussions throughout the meeting.
Wednesday, August 28, Lunch ( 12:30 to 13:30 )

Diversity session sponsored by the Early Career Committee
This inaugural session will examine gender and minority representation in our society and will feature invited speakers with a wide array of experiences. The session will start with a focused panel discussion and break out to give participants opportunities to further discuss one-on-one. Breakfast will be served.
Friday, August 30, Breakfast ( 07:30 to 8:30 )

Inaugural Kazuhiko Sadamoto Lecture
The SMRA community is extremely thankful for Dr. Kazuhiko Sadamoto's long-standing contributions and commitment to the SMRA.

In order to formally recognize these important contributions to the society, an annual invited keynote lecture - the 'Kazuhiko Sadamoto Lecture', featuring a prominent keynote speaker, will be held for the first time at the 2019 SMRA Conference:
Thursday, August 29 ( 08:45 to 9:15 )

08:45 Plenary Talk II — Kazuhiko Sadamoto Inaugural Lecture: Introduction
Kazuhiko Sadamoto
08:50 Value of Imaging from a Health System Perspective: A World Perspective
Howard Chrisman
Break-out Sessions

Break-out Hands-on Software Sessions with Vendors
One hour session, 10 to 12 Participants.
Please see registration desk for details and how to sign up.

Wednesday, August 28th
13:30  Break-out Session I
15:30  Break-out Session II

Thursday, August 29th
09:15  Break-out Session I
11:30  Break-out Session II
13:30  Break-out Session III
15:15  Break-out Session IV
Awards

Potchen Award
For the best oral presentation given by a trainee.

Dr. Potchen received his bachelor’s degree from Michigan State University in 1954, his medical degree from Wayne State University in 1958, his master’s degree in management from the Massachusetts Institute of Technology in 1973, and his law degree from the University of Michigan in 1984.

He became Professor and Chief of Diagnostic Radiology, at Mallinckrodt Institute of Radiology at Washington University School of Medicine, then Professor of Radiology and Dean of Management Resources at Johns Hopkins University School of Medicine. In 1975 he accepted the position as Professor and Chairman of the Department of Radiology at Michigan State University.

He has served on seven scientific journal editorial boards. He authored or edited 31 books and has been the author and co-author of 42 chapters in medical texts, in addition to 167 publications in the refereed press in the fields of chest radiology, neuroradiology, neuroscience, magnetic resonance, social economic implications of medical care, and the role of the university in technology transfer.

His major emphasis over the past 20 years in studying the quality of human decision making in Medicine, Business and Law. His emphasis has been on assessing decisions humans make and seeking to improve on the applications of technology to healthcare through improving the quality of decisions in the selections of alternative technologies and in their implementation.

Passariello Award
For the best poster presentation given by a trainee.

Roberto Passariello was a greatly admired radiologist whose tireless dedication to his field is evident from the enormous body of literature he published during his career, the many congresses, seminars and courses he organized, and his work on the editorial boards of numerous scientific journals.

As well as serving as president of the ECR (1999) and the EAR (1999-2000), Passariello was president of the Italian Society of Cardiovascular and Interventional Radiology, the Italian Society of Magnetic Resonance Imaging, and the European Society of Magnetic Resonance in Medicine and Biology.

He received the ECR Gold Medal in 2003 for his outstanding contribution to and leadership in European radiology.
Endorsements

Society for Cardiovascular Magnetic Resonance (SCMR)
scmr.org
The Society for Cardiovascular Magnetic Resonance (SCMR) is the recognized representative and advocate for physicians, scientists, and technologists who work in the field of cardiovascular magnetic resonance (CMR). SCMR is the principal international, independent organization committed to the further development of CMR through education, quality control, research, and training.

Acknowledgements

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Resident Sponsors

Société Française de Radiologie
sfrnet.org
An association whose objective is to develop an expertise on all subjects concerning imaging and to ensure its dissemination.

Societe Française d'Imagerie Cardiaque Vasculaire
sficv.com
A multidisciplinary society whose active members are physicians interested in cardiac and/or vascular pathology.
L’unité de recherche de L’institut du Thorax
8 quai Moncousu, 44007 Nantes, France
umr1087.univ-nantes.fr

Founded in 2004, L’institut du Thorax is devoted to patient care, research and higher education in cardiovascular, metabolic and respiratory diseases. From bench to bedside, our scope reaches from a basic research lab (Inserm UMR 1087/CNRS UMR 6291) to clinical departments via a clinical investigation center.

The Educational workshop will be held in:
IRS-UN building
“Denis Escande” Amphitheatre
8 Quai Moncousu
La Cité des Congrès de Nantes
5 Rue de Valmy, 44000 Nantes, France
lacite-nantes.com

Created over 25 year ago, La Cité Nantes Congress Centre has made a name for itself among the top French convention centres.

As an economic and cultural tool of global exposure, it is home to the most stunning French and global events and actively contributes to the reputation, attractiveness and development of the region.
Explore Nantes

Overview

Nantes is nestled on the Loire estuary, the longest river in France and last wild river in Europe. Here, the river is still influenced by the tides, and flows in both directions! The giant cranes still bear witness to the intense port activity which the city experienced up until the mid-20th century. Nowadays, the Loire acts as a backdrop for cultural activities, provides a haven for protected animals and plants and beckons people to enjoy the nearby beaches and coastline for relaxing or water sports.

As a city that was once home to the Dukes of Brittany, Nantes – a city which is Breton at heart – embodies the history of an area of transition between the countryside and the sea, between Brittany and the Loire, and between the roots of identity and the openness to discovery.

— Area: 25.17 mi²
— Weather: 66°F (19°C), Wind SW at 10 mph (16 km/h), 75% Humidity
— Local time: Wednesday 8:11 PM
— Mayor: Johanna Rolland
— Department: Loire-Atlantique
Cultural Adventure
Culture abounds in Nantes, with its 15 museums, 34 theatres and auditoriums, and numerous venues and events demonstrating its creative vibrancy: Folle Journée, the Machines on the Ile de Nantes, Royal de Luxe, Lieu Unique, Estuaire, and more. There is so much to discover during a short stay or throughout the entire year.

Gastronomy and Wine
As the city of Petit Beurre LU biscuits and Muscadet wine, Nantes knows how to please its inhabitants! In addition to the renowned local specialities – seafood, Loire valley wines, boiled sweets and Nantes cake –, sailors have infused Nantes cuisine with world flavours over the centuries. The immediate vicinity of one of the main basins in France for growing fresh produce means that the city can make the most of some of the freshest and most varied products available. Countless markets and restaurants provide an opportunity to discover this unique culinary wealth, as it is cooked up by chefs going all out to be inventive.

Getting around Nantes
Nantes's taxi number is +33 02 40 69 22 22. There are designated taxi waiting spots near Place du Commerce and the train station, but taxi service is infrequent.

Public transportation services are provided by TAN (Transports de l'Agglomération Nantaise) which consists of 3 tram lines, a BusWay, many bus lines, and several Navibuses. A one-way ticket costs €1.50. Once on the bus, tram, or navibus you must validate the ticket in one of the green ticket validation machines. The ticket is then active for one hour with unlimited transfers. Tickets are cheaper if you buy them in bulk (a "carnet" of 10 tickets costs €12.70) and there are also 24-hour (€4.20 for one person, or €6.70 for 4 people).
Les Machines de l’île is a totally unprecedented project. A product of François Delaroziere and Pierre Orefice’s collective imagination, it is the only place where you’ll find Jules Verne’s “Invented Worlds,” the mechanical universe of Leonardo da Vinci, and Nantes’ industrial history, all on the exceptional site of the city’s former shipyards.

Some strange machines came to populate the Île de Nantes. After the Grand éléphant, this is now the turn of a Manta Ray, a Sea Snake and of all kinds of incredible boats to take possession of the banks of the Loire River in the Carrousel des Mondes Marins. These uncommon machines were born from the hands of the constructors of the company La Machine and came to life in between those of Les Machines de l’île before the public’s eyes. Their backwards and forwards between the building workshop and the Galerie des Machines give impetus to the movement at the heart of the former Dubigeon warehouses. They convey a mysterious reality to this island just like the time when vessels were launched there for all the trips of the world.

Thursday Evening, August 29th
Boarding boat: La Cité des Congrès at 18:00, the boat leaves at 18:30
Château de la Poterie
La Poterie, 44240 La Chapelle-sur-Erdre
www.chateaudelapoterie.com

We will be taking a boat to the venue and returning by bus.

Magnificent Reception on the Erdre’s Riverside. A little place of paradise at the end of the road...

Located on the Erdre’s riverside, this nice Castle has been built near the City of NANTES on 18th Century by Ceineray’s Architect.

In its vast, spacious park, in the shade of Century-old-trees, the Château de la Poterie welcomes you with elegant reception lounges to celebrate private cocktail party, dinner, exhibition and seminar or meeting.

It’s authentic selting, the charm of the surrounding and the calmness of its stones, steeped in history and comfort of today, will assuredly seduce your guests.

Friday Evening, August 30th: TBD
Take the Journey

Cost for the 3 days is $250 USD

Street by street, from the Château des ducs de Bretagne to the Passage Pommeraye, and from the Musée d’Arts to the Galerie des Machines, Nantes reveals its historical, architectural and artistic riches.

Nantes bubbles and sparkles and will surprise with its vibrancy and its capacity to reinvent and renew itself.

To discover the city of dukes is to make the most of an exceptional heritage, where plant life lives side by side with urban development, where the artistic trail amazes with its contemporary installations and where public friendly spaces are reachable on foot and by bike.

Wednesday August, 28th

09.00 Meeting with your guide in front of the Tourism Office
9, rue des Etats – facing the Château des Ducs de Bretagne

City overview and the summer event « Voyage à Nantes. Every summer the event Voyage à Nantes invit artists, designers, architects, etc. to express themselves in the public arena. Ephemeral installations, works of art, places where it’s good to meet lead you on a journey of discovery across the town. Make the most of your day to discover the best of Nantes, a town tipped upside down by art : all along the green line with a selection of more than 10 unmissable stages.

12.00 Cross the river Loire with the Navibus and have a lunch in Trentemoult, a quarter with narrow streets, colorful houses, taverns and terraces. Lunch at the restaurant “La Civelle”: 3 courses, 1 glass of wine, coffee or tea.

13.30 After lunch, discover Trentemoult Trentemoult is part of Rezé, which stretches along the south of Nantes. It was once a fishing and Cape Horner village. Its traditional three-storey houses were built with the Loire’s rise in water level in mind. The staircases were mainly outside, giving access to the upstairs rooms during times of flooding. In the second half of the 19th century, captains started to build bigger houses around the village. These more bourgeois houses had large gardens filled with flowers and exotic plants brought back from their travels. Building the quayside reduced the risk of floods, the last big ones happened in 1910 and 1935.

15.15 Cross the river back to the city center and have a tea time in “La Cigale” Opened in 1895, and a listed historical monument, La Cigale is a joyful example of Art Nouveau. A never-ending display of ornaments, associating painted wood and ceramic in a variety of blue tones.

15.45 Way back to the Tourism Office and end of the visit at 16.00
Discover Bouffay Quarter and the Château des Ducs de Bretagne
The “Cité des Ducs” has middle ages characteristics to be proud of. The ‘place du Bouffay’ and its adjoining narrow streets are the echo of the businesses and communities that once reigned there. Timber-framed houses, visible remnants of the 15th and 16th century blend in with today’s shops, bars and restaurants in every imaginable style. It’s a place of crossroads and chance meetings; for going out, for shopping or just wandering through with the ever-present crowds.

Discover the Château des ducs de Bretagne built at the end of the 15th century by François II, the last Duke of Brittany an then its daughter, Anne of Brittany, twice Queen of France.

The castle, which sits between grandeur and renewal, is home to the History of Nantes museum and its contemporary scenography. It paints a portrait of the city from its origins to the modern metropolis of today. The history of the castle unfolds and unique historical objects relate the role played by Nantes in the European slave trade, daily life in Nantes during the two world wars and the major local industries (LU, BN, etc).

12.00 Complimentary lunch

13.30 Discover the botanical garden
It’s home to more than 10,000 species and more than 5000 flowers are planted each season. Its greenhouses have a surface area of 800 square metres. It’s been presented with the “Remarkable Garden” award and is among the four leading botanical gardens in France. The collections have developed and specialised over the last 150 years. It’s both a scientific garden and a garden for leisure and houses internationally recognised reference collections. It’s especially celebrated for its camellia collection (which is unique in France), its cultivation of epiphytic plants in semi-natural settings and for its concern for the reintroduction of rare species. An example of this is the wild Sylvestre tulip, which disappeared in the 1970s and was reintroduced in 2010 into the region’s vineyards.

15.45 Way back to the Tourism Office and end of the visit at 16.00
Guest Program

Friday, August 30th

09.00 Meeting with your guide and the bus in front of the Nantes Event Center
Departure by bus to the Atlantic Coast – Crossing the salt marshes

10.15 Tour of Guérande
Discover this medieval town with its cobbled streets and remparts.
Guérande is in the heart of the peninsula called "Presqu’île guérandaise", along
with other towns, such as La Baule, Le Croisic, Pornichet, Batz-sur-Mer, Le
Pouliguen, or Piriac.

12.00 Arrival in La Baule: Complimentary lunch and free time
La Baule, the longest beach in Europe, with pine forests, 19th century villas and
prestigious buildings.

15.00 Way back to Nantes for an arrival at 16.00/16.30
Gold Sponsors

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Bayer AG is a global leader in Radiology and offers solutions with products and services to support Radiologists achieving high quality contrast enhanced imaging in CT and MR. Clear Direction – From Diagnosis to Care.

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usa.philips.com/healthcare/solutions/magnetic-resonance
Royal Philips (NYSE: PHG, AEX: PHIA) is a leading health technology company focused on improving people's health and enabling better outcomes across the health continuum from healthy living and prevention, to diagnosis, treatment and home care. Philips leverages advanced technology and deep clinical and consumer insights to deliver integrated solutions. Headquartered in the Netherlands, the company is a leader in diagnostic imaging, image-guided therapy, patient monitoring and health informatics, as well as in consumer health and home care. Philips generated 2018 sales of EUR 18.1 billion and employs approximately 77,000 employees with sales and services in more than 100 countries.

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Siemens Healthineers enables healthcare providers worldwide to increase value by empowering them on their journey towards expanding precision medicine, transforming care delivery, improving patient experience and digitalizing healthcare. A leader in medical technology, Siemens Healthineers is constantly innovating its portfolio of products and services in its core areas of diagnostic and therapeutic imaging and in laboratory diagnostics and molecular medicine. Siemens Healthineers is also actively developing its digital health services and enterprise services. Siemens Healthineers enables healthcare providers worldwide to increase value by empowering them on their journey towards expanding precision medicine, transforming care delivery, improving patient experience and digitalizing healthcare.

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GE Healthcare est un des leaders dans le domaine de l’imagerie médicale. Il permet de développer la médecine de précision dans le diagnostic, le traitement et le suivi des patients.

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**Circle Cardiovascular Imaging, Inc.**
circlecvi.com
Circle provides an optimized Cardiac MR Reading & Reporting solution - cvi42 - to produce fast, accurate results with its Deep Learning trained algorithm for Cardiac function, tissue characterization and 2D/4D Flow.

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**Arterys: arterys.com**
An AI company developing a medical imaging cloud platform to allow radiologists to view patient images in one click via their web browser to simplify their work and diagnosis.

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**Bracco: braccoimaging.com**
Bracco Imaging offers a product and solution portfolio for all key diagnostic imaging modalities: X-ray Imaging, MRI, CEUS, and Nuclear Medicine through radioactive tracers.

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**Canon Medical: eu.medical.canon**
Offering diagnostic medical imaging solutions; CT, X-ray, Ultrasound, MR and software for visualization and analysis of 2D, 3D and 4D images of anatomy and physiological functions.

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**Heart Imaging Technologies: heartit.com**
Browser-based Precision CMR workflow solutions featuring structured reporting, collaborative remote read image sharing, a HL7 interface, and analysis tools to increase clinical volume.
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Medis Medical Imaging Systems: arterys.com
At the heart of innovation since 1989. Medis Empowers medical professionals with solutions that support the diagnosis of cardiovascular disease, improving patient’s quality of care.

Pie Medical Imaging: piemedicalimaging.com
Providing cardiovascular image analysis solutions which assist the medical professional to improve patient treatment. Caas MR Solutions is the powerhouse application to visualize and analyze cardiac MRI.

Université de Nantes: univ-nantes.fr
Université de Nantes nurtures enthusiasm, audacity, generosity and courage. These principles, normally associated with youth, are our trademark.

Pays de la Loire: paysdelaloire.fr
Regional Council represent the people of Pays de la Loire providing administrative, education, heritage, and tourism services.

Nantes Métropole: nantesmetropole.fr
The capital of the Great West with 600,000 inhabitants. More than half of the territory consists of natural or agricultural areas. Growth and balance set the tone for its dynamics.

Centre Hospitalier Universitaire de Nantes: chu-nantes.fr
Located in the center of Nantes and qualified as a university-hospital complex due to the proximity of the three faculties of medicine, pharmacy and odonto.

Université Bretagne Loire: u-bretagneloire.fr
A community of universities and institutions (ComUE) aiming to develop the scientific and academic potential of this territory at national and international level.

Centrale Nantes: ec-nantes.fr
Founding by the city of Nantes to support French industrial development in the "lower Loire" region, Centrale Nantes has grown to be a world leading engineering school.

Centre National de la Recherche Scientifique: cnrs.fr
One of the most important research institutions in the world. Meeting the great challenges of science; exploring the biology, the matter, the universe, and the functioning of human societies.
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 MR Angio Club formally Incorporated as the nonprofit Society for Magnetic Resonance Angiography (SMRA) in 2015. The society’s annual conference is widely recognized as the sole international conference exclusively devoted to 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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— Sébastien Levilly
The scientific program was made possible with the help of our team of abstract reviewers and their rigorous selection.

We would therefore like to thank the following:

— Manuela Aschauer — John Huston
— Alex Barker — Alexis Jacquier
— James Carr — Nadja Kachenoura
— Jeremy Collins — Ioannis Koktzoglou
— Kevin DeMarco — Alain Lalande
— Jean-Francois Deux — Jing Liu
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2019 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!
Society for Magnetic Resonance Angiography
32nd Annual International Conference

Los Angeles, CA
UCLA Meyer and Renee Luskin Conference Center
August 26, 2020  |  August 29, 2020

Solving Clinical Problems with Human Creativity and Machine Learning

Organizers: Dr. Debiao Li and Dr. Paul Finn
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www.society4MRA.org