

# SMRA 2018 Glasgow - Program - Aug 29 to 31, 2018 (tentative)

## Wednesday 29th Aug

### 8:30 Opening Session - Welcome from president/organising committee

### 9:00 Cardiothoracic MRA

Adaptive Navigator-Corrected, Breath-Hold Single-Shot Pulmonary MRA	Robert Edelman, NorthShore University HealthSystem
4D flow MRI for Chronic Thromboembolic Pulmonary Hypertension: Hemodynamic Findings before and after Balloon Pulmonary Angioplasty	Hideki Ota, Tohoku University Graduate School of Medicine
Accelerated, Navigator-Triggered, Noncontrast Relaxation Enhanced Angiography with Compressed SENSE at 1.5T	Hui Wang, Philips Healthcare
Lung Perfusion Assessed without Exogenous Contrast via Arterial Spin Labeling	Mark DiFrancesco, Cincinnati Children's Hospital Medical Center
Direct signs of Pulmonary Embolism at MRA: Intra Reader Agreement Clinical Challenge	Mark Schiebler, University of Wisconsin - Madison

### 10:00 Coffee break/Posters

### 10:30 Quantitative Flow MRI

Mapping of reversed flow and wall shear stress in aortas with bicuspid aortic valves	Pim van Ooij, Academic Medical Center, Amsterdam
4D Flow vCath: 3D Virtual Catheter for Volumetric Time-varying Aortic Hemodynamic Analysis from 4D Flow MRI	Mohammed Elbaz, Northwestern University
Directional Flow and Stasis Maps from 4D flow MRI to Characterize Aortic Dissection	Kelly Jarvis, Northwestern University
Ultra Low Dose CT Fluoroscopy: A new tool for CT-guided Vascular Intervention.	Martin Wagner, University of Wisconsin - Madison
Slice following in the era of feature-tracking: Pilot study to improve accuracy of trans-valvular flow	Felicia Seemann, Lund University
4D Flow Imaging with Reduced Field-Of-Excitation	Clarissa Wink, Physikalisch-Technische Bundesanstalt, Berlin
Non-invasive Assessment of Splanchnic Flow in Patients Suspected of Mesenteric Ischaemia using MRI 4D Flow - Pilot Study	Pauline Hall Barrientos, NHS Glasgow
Reduction of Flow Jets following Lumbar Puncture in Patients with Pulsatile Tinnitus	Henrik Haraldsson, UCSF
Augmenting 4D Flow MRI in Cerebral Aneurysms with High-resolution PIV and CFD Data	Sean Rothenberger, Purdue University
Preoperative 4D Flow Analysis of Renal Cell Carcinoma	Christopher Francois, University of Wisconsin Madison

### 12:10 Gold Sponsor Presentation

### 12:20 Lunch

## 13:40 Keynote - David Lurie, Field Cycling

### 14:15 Contrast MRA

Modeling to Better Understand Bolus Shaping Effects in Contrast-Enhanced MRA	Jeffrey Maki, University of Colorado
Next Generation Gd-Free T1 MRI Contrast Agents for Angiography: High Relaxivity, Remarkable Stability and Tunable Pharmacokinetics	Xiao-an Zhang, University of Toronto
Assessment of Pulmonary Hypertension using Time Resolved MRA and 4D flow MRI	Daniel Gordon, Northwestern University
18F-Fluoride PET MR in valvular and coronary heart disease; A pilot investigational study	Jack Andrews, University of Edinburgh
Efficacy of gadoterate meglumine enhanced MRA in evaluating vascular diseases compared with gadobutrol enhanced MRA.	Louise Collins, Northwestern University

## 15:10 Coffee break/Posters

### 15:40 **Gold Sponsor Presentation**

### 15:50 Peripheral MRA

Flow-MRF: a novel way of quantifying blood velocities in combination with tissue relaxation parameters	Sebastian Flassbeck, German Cancer Research Center, Heidelberg
Submillisecond water excitation for flow-independent noncontrast-enhanced peripheral angiography at 3T	Nolwenn Leveque, University Hospital Lausanne
Contrast Free MRI Methods for Vascular Assessment in Diabetic Lower Extremities	Jie Zheng, Washington University School of Medicine
Magnetic Resonance Imaging of Diabetic Feet – Going with the Flow	Jie Zheng, Washington University School of Medicine
Non-invasive lower limb angiography in a large health board – how low a radiation dose is achievable? Audit Update	Peter Douglas, NHS Glasgow
Technical and Clinical Challenges: Peripheral MRA	

### 17:10 Power-pitch

Ferumoxytol MRA in Haemodialysis Access Assessment : Pre- and Post-Surgical Findings - A Pictorial Review	Alfred Tan, NHS Greater Glasgow and Clyde
Safety profile of ferumoxytol as contrast for MR angiography in patients with chronic kidney disease	Sokratis Stoumpos, University of Glasgow
Protocol time optimization: Institutional experience in clinically applied high-resolution intracranial vessel wall MRI	Laura Eisenmenger, University of California, San Francisco

A Morphology aided Diagnosis Network for Discrimination between Normal and Atherosclerotic Carotid Arteries on Black-Blood Vessel Wall MRI

Jiayi Wu, Xian Jiaotong University

An optimised subtraction approach for subtractive NCE-MRA techniques based on robust regression using the deviation angle

Hao Li, University of Cambridge and Addenbrooke's Hospital

Simultaneous Multi-VENC Imaging with Dual-Echo Acquisition

Simon Schmidt, German Cancer Research Center, Heidelberg

Group discussion

17:40 Adjourn

19:00 Evening event - Kelvingrove, address by Prof Anna Dominiczak

Dinner at 8PM

## Thursday 30th August

### 9:00 Keynote - Matthias Stuber, Self-gated cardiac MR

#### 9:30 Coronary MRA

Motion-corrected coronary magnetic resonance angiography and myocardial positron emission tomography: initial clinical experience

Camila Munoz, King's College London

XD-ORCCA: Optimized Respiratory-resolved 3D Cartesian Coronary MRA

Teresa Correia, King's College London

Quantitative myocardial perfusion using multi-echo Dixon for combined motion and T2\* correction

Markus Henningsson, King's College London

Particle swarm optimization for simultaneous T2 preparation and robust broadband fat suppression for coronary magnetic resonance angiography at 3T

Lionel Arn, University Hospital Lausanne

Flexible, Semi-Projective MR Angiography using Cine FISS ASL for Combined Flow Quantification and Optimal Display of Arterial Anatomy

Robert Edelman, NorthShore University HealthSystem

### 10:30 Gold Sponsor Presentations

10:50 Coffee break/Posters

#### 11:20 Cardiac MRI

Altered Biventricular Myocardial Velocities in Patients During Year 1 After Heart Transplantation

Roberto Sarnari, Northwestern University

A multimodality quantification of the influence of cardiac allograft vasculopathy on the coronary arteries and the myocardium

Ruud van Heeswijk, Lausanne University Hospital

Quantitative 4D CT DSA: A New tool for CT-guided Vascular Diagnosis and Intervention. Martin Wagner, University of Wisconsin - Madison

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Assessment of myocardial microvascular pathology using ferumoxytol-enhanced MRI and 3-compartment model of capillary level water exchange in patients with chronic kidney disease: comparison with healthy controls Aleksandra Radjenovic, University of Glasgow

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Non-Contrast Enhanced Simultaneous Bright- and Black-Blood 3D Whole-Heart MRI in Patients with Congenital Heart Disease Giulia Ginami, King's College London

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Native T1-rho mapping: An alternative to ECV for detection of diffuse myocardial fibrosis? A Clinical Study in 219 patients Martijn Froeling, Utrecht University Medical Center

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Left ventricle in Idiopathic Pulmonary Arterial Hypertension. Longitudinal, circumferential and radial strain and dyssynchrony. Geeshath Jayasekera, University of Glasgow

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Cardiac Quantitative Susceptibility Mapping at 3T: a Comparison between Breathhold and Freebreathing Approaches Yan Wen, Cornell University

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Peak velocity across the aortic valve using same-day Doppler echocardiography and 4D flow MRI Hyungkyu Huh, Radiology Northwestern University

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Simultaneous 3D whole-heart bright-blood anatomy and black blood wall assessment with interleaved T2prep-IR Giorgia Milotta, King's College London

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13:00 Lunch

14:15 Keynote, Nicole Seiberlich - MRF

14:50 Gold Sponsor Presentations

15:00 Vessel Wall MRI (1/2)

Maximizing the Conspicuity and Characterizing Signal Generation of Fluorine-19 MRI for the Quantification of Inflammation in Atherosclerosis Emeline Darçot, Lausanne University Hospital

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Simultaneous T1 and T2 Mapping of Plaque (SIMPLE) with T2 and Inversion Recovery Prepared 3D Radial Imaging Huijun Chen, Tsinghua University

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Vascular Deformation Mapping (VDM) for Assessment of Thoracic Aortic Growth Using Magnetic Resonance Angiography: Preliminary Results Nicholas Burris, University of Michigan

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Comparison of Qualitative and Quantitative Methods for Vessel Wall Imaging MRI Evaluation of Intracranial Atherosclerosis Matthew Alexander, University of Utah

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Cardiovascular black-blood imaging using Volume ISotropic Turbo spin echo Acquisition (VISTA) in patients with congenital heart disease Markus Henningsson, King's College London

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15:50 Coffee break/Posters

16:20 **Vessel Wall MRI (2/2)**

Simultaneous Water-Fat Separation and Quantitative Susceptibility Mapping of the Carotid Artery Wall: Sequence and Processing Considerations Pascal Ruetten, University of Cambridge

Comparison of Multiple Normal Reference Structures for Vessel Wall Imaging MRI Sequences Matthew Alexander, University of Utah

Vessel Wall Imaging using 3T MRI in Perforating Artery Infarction - Difference between LSA and PPA - Keiji Igase, Washokai Sadamoto Hospital

Added Value of Femoral Artery Atherosclerosis for Determining Severity of White Matter Lesions: A 3D MR Vessel Wall Imaging Study Xihai Zhao, Tsinghua University

Visualizing the Lumen and Wall of Intracranial Artery Stenosis Before and After Stenting Using High Resolution MRI Vessel Wall Imaging Bing Tian, Changhai Hosiptal of Shanghai

17:10 **Power-pitch**

3D Radial Free-breathing Variable Flip Angle Whole Heart Myocardial T1 Mapping Orhan Unal, University of Wisconsin - Madison

Combined Low-dose time-resolved and single-phase high-resolution contrast-enhanced MRA: effectiveness in detection of spinal vascular diseases Bum-soo Kim, Seoul St.Mary's Hospital, The Catholic University of Korea

Development of a targeted contrast agent for MR molecular imaging of EDB-FN Zheng-Rong Lu, Case Western Reserve University

Using non-contrast navigator MRA to decrease scan times of MR aorta Michelle Walkden, University Hospital Southampton

Hemodynamics assessed with Dual-Venc 4D flow MRI in patients with cerebral aneurysms Susanne Schnell, Northwestern University

Quantitative Analysis of Plaque Enhancement on Vessel Wall Imaging MRI Sequences for Intracranial Atherosclerosis Matthew Alexander, University of Utah

Group discussion

17:40 Adjourn

Evening event - Fruit market, President's address: A year in the life of SMRA and

19:00 future challenges

Dinner at 8PM

## Friday 31st August

8:30 Coffee/Posters/Admin

### 9:00 Keynote - Tim Leiner, Machine Learning

#### 9:30 Emerging techniques in MRA

Highly accelerated 4D flow with compressed sensing for evaluation of aortic hemodynamics Liliana Ma, Northwestern University

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Quantitative 3D Dynamic Contrast Enhanced (DCE) MR Imaging of Carotid Vessel Wall by Fast T1 Mapping Using Multitasking Nan Wang, Cedars-Sinai Medical Center

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Dynamic Fast Spin Echo Single Image Super-resolution Using Generative Adversarial Network Roberto Souza, University of Calgary

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Deep Learning for Automated Reference-Free Image Quality Assessment of Whole-Heart Magnetic Resonance Images Davide Piccini, Siemens Healthcare Switzerland

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Identification of high-risk intracranial atherosclerotic plaque features in intracranial atherosclerosis: initial experience using a radiomic approach by high resolution MRI Zhang Shi, Changhai Hospital of Shanghai

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#### 10:20 Coffee break/Posters

Carotid Artery Localization and Lesion Detection on 3D-MERGE MRI through Online Learning Li Chen, University of Washington

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Deep Learning meets Compressed Sensing: Image Quality-Regularized Coronary MRA John Heerfordt, Lausanne University Hospital

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Clinical Feasibility of High-Resolution Prospective Compressed Sensing Time-of-Flight Angiography at 7 Tesla Patrick Liebig, Friedrich-Alexander Universität Erlangen-Nürnberg

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High Resolution Time-of-Flight Angiography of Human Brain at 7 Tesla with VERSE Saturation and Compressed Sensing Christian Meixner, Friedrich-Alexander Universität Erlangen-Nürnberg

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Intracranial Vessel Wall Segmentation on 3D black-blood MRI using Convolutional neural network Huijun Chen, Center for Biomedical Imaging Research, Tsinghua University

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#### 11:40 Head and Neck MRA

Network-based 4D Flow MRI quantification in healthy neurovasculature and arteriovenous malformation Maria Aristova, Northwestern University

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Association between Cerebrovascular Large Artery Atherosclerosis and Cerebral Perfusion Hualu Han, Tsinghua University

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Assessment of the Hemodynamic Impact of Intracranial Atherosclerosis Disease Alireza Vali, Radiology, Northwestern University

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Automatic Segmentation of Carotid Vessel Wall in Multi-Contrast Blackblood Images using Deep Learning Rui Li, Tsinghua University

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Utility of Combining Positron Emission Tomography and Magnetic Resonance Imaging of Carotid Plaque: Review and Early Experience Alex Vesey, Edinburgh University

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Clinical challenge and round table discussion on the future of carotid MRA

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13:00 Lunch

**14:15 Keynote - David Newby, MRI PET**

**14:50 Ferumoxytol MRA**

Safety for the Off-label Use of Ferumoxytol in Magnetic Resonance Imaging: Early Results from the FeraSafe Multi-Center Registry™ Kim-Lien Nguyen, UCLA

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Ferumoxytol-Enhanced MRI for Intramyocardial Vascular Reactivity Mapping: Early Pre-Clinical Results Kim-Lien Nguyen, UCLA

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CT angiography (CTA) vs ferumoxytol-enhanced MR angiography (FeMRA) for the assessment of potential kidney transplant recipients Sokratis Stoumpos, University of Glasgow

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Utility of Ferumoxytol-enhanced 3-Dimensional Magnetic Resonance Imaging in the assessment of carotid atheroma inflammation Ammara Usman, University of Cambridge

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3D high resolution Black Blood(BB) Multi-Echo(ME) T2\* Imaging Technique for Quantitative Superparamagnetic Iron Nanoparticle Uptake into Intracranial Atherosclerosis Seong-Eun Kim, University of Utah

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15:45 Coffee break/Posters

**16:15 Abdominal MRA**

4D Flow MRI of the Uterine and Ovarian Vessels in the 2nd Trimester in Healthy Subjects Oliver Wieben, University of Wisconsin - Madison

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Simultaneous quantitative assessment of cardio-renal perfusion and glomerular filtration rate using dual-bolus DCE-MRI Matthew Lee, University of Glasgow

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Comparison of renal split function using 1.5T DCE-MRI and Nuclear Medicine Sau Lee Chang, NHS Glasgow

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Use of kZ-Space for Providing Sub-Millimeter Through-Plane Resolution in 2D Multislice Imaging Soudabeh Kargar, Mayo Clinic

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Comparison of GFR measurements using 1.5T DCE-MRI and Nuclear Medicine Clinical Challenges Rosario Lopez Gonzalez, NHS Galsgow

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**17:15 Awards and closing session (including address by Prof Rhian Toyuz)**

18:00 Adjourn

19:00 Evening event: Óran Mór

### Traditional Posters

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Results of Contrast Enhanced Magnetic Resonance Angiography (MRA) of the Hand – A Retrospective Evaluation	Manuela Aschauer, LKH Graz
Fractional flow reserve in the femoral arteries derived through computational fluid dynamics: a non-invasive diagnostic tool for stenotic diseases	Simeon Skopalik, University of Glasgow
Experimental Assessment of MEDIC and ToF Imaging Accuracy	Conor MacDonald, University of Dundee
Evaluate the Characteristics of Spontaneous Intracranial Artery Dissection using High Resolution MRI Vessel Wall Imaging	Bing Tian, Changhai Hospital of Shanghai
Design of a phantom to validate the accuracy of 4D flow MRI velocity measurements and derived bio-markers	Marco Castagna, Université de Nantes - Ecole Centrale Nantes
Contrast-enhanced Magnetic Resonance Angiographic (ceMRA) in Evaluation of Vascular Stents - Ability of Assessment and Artefacts in Dependence of Stent Material and Field Strength	Manuela Aschauer, LKH Graz, Austria
Diffusion-Weighted Magnetic Resonance Imaging of Acute Lower Extremity Deep Vein Thrombosis	Zeynep Tekin, Medeniyet University Göztepe Training And Research Hospital
Influence of Intracranial Aneurysms on Volume Flow Rate Measurement using Magnetic Resonance Fluid Dynamics	Haruo Isoda, Brain & Mind Research Center, Nagoya University
Contrast enhanced MRA in Thoracic Outlet Syndrome: Indications and Technical Considerations	Soh Eddie Po Tao, Singapore General Hospital
Use of Time Resolved Imaging of Contrast Kinetics (TRICKS) MRA sequences in complex arteriovenous malformation (AVM) assessment – pictorial review	Mark Lewis, Norfolk and Norwich University Hospitals NHS Trust