Session 1 – Keynote Speakers
8:00 am – 8:05 am Welcome and Introduction (Dan Kim, Susanne Schnell)
8:05 am – 8:35 am Keynote Lecture 1: Data Sought From Cardiac Imaging: the Heart Failure Example (Anthony DeMaria)
8:35 am – 9:05 am Keynote Lecture 2: Assessing cardiac mechanics and hemodynamics in congenital heart disease by CMR: can we have it all in under an hour by 2030? (Beth Printz)
9:05 am – 9:35 am Keynote Lecture 3: CMR Imaging Physics to Assess Mechanics and Hemodynamics (Elliot McVeigh)
9:35 am – 10:00 am Roundtable discussion (live) (Discussion facilitators: Matthias Friedrich, Cynthia Rigsby, Sebastian Kozerke)

10:00 am - 10:15 am Coffee Break

10:15 am – 12:00 pm Session 2 – State-of-the-art methods
Moderators: Tino Ebbers and Thekla Oechtering
10:15 am 4D Flow MRI – Translation of Technology to Clinical Practice (Albert Hsiao, invited talk)
10:30 am 4D Flow MRI – state-of-the-art and future directions (Pim van Ooij, invited talk)
10:45 am MRI of cardiac mechanics: state-of-the-art methods and influences of hemodynamics (Fred Epstein, invited talk)
11:00 am Cardiac Flow-Mechanics Markers: Into the coupling (Mohammed Elbaz, invited talk)
11:15 am Computational image-based modeling for personalized treatment planning in cardiovascular disease (Alison Marsden, invited talk)
11:30 am Roundtable Discussion (live) (Discussion facilitators: Daniel Ennis, Jadranka Stojanovska)

12:00 pm – 1:00 pm Lunch

1:00 pm – 1:45 pm Session 3 – Valvular/Vascular disease
Moderators: Ruth Lim and Evangeline Warmerdam
1:00 pm The Effect of Curved vs. Straight Graft Configurations on Aortic Hemodynamics in Bicuspid Aortic Valve Patients Undergoing Thoracic Aortic Aneurysm Repair (Elizabeth Weiss)
1:08 pm  Structural and Functional Reverse Myocardial Remodeling following Transcatheter Aortic Valve Replacement (Torben Lange)
1:16 pm  Elevated Regional Wall Shear Stress is Associated with Progressive Ascending Aorta Dilation: A 5-Year Follow-Up Study (Gilles Soulat)
1:24 pm  4D flow MRI-based WSS improves the prediction of adverse ascending aorta biomechanics in surgically resected aortic tissue (Alex Barker)
1:32 pm  Q & A and Discussion (live)

1:45 pm – 2:00 pm Coffee Break

2:00 pm – 2:45 pm Session 4 – Myocardial disease
Moderators: Daniel Messrhogli and Deborah Kwon
2:00 pm  Diagnostic and Prognostic Significance of Combined PET/MRI in Cardiac Sarcoidosis (Kate Hanneman)
2:08 pm  Cardiac function adaptation in obese and hypertensive young adults (Gert Snel)
2:09 pm  CMR Tissue Based Manifestations of Adverse Left Ventricular Remodeling in Friedreich's Ataxia – Echocardiographic, Genotypic, and Effort-Based Sequelae of Late Gadolinium Enhancement (Jonathan Weinsaft)
2:17 pm  Relationship between myocardial perfusion reserve and Left Ventricular Size and Function in non-ischemic cardiomyopathy (Shuo Wang)
2:25 pm  ACE Inhibitor Treatment Normalizes Apparent Diffusion Coefficient in Spontaneously Hypertensive Rats (Alexander Wilson)
2:33 pm  Q & A and Discussion (live)

2:45 pm – 3:00 pm Coffee Break

3:00 pm – 3:45 pm Session 5 – AI and workflow
Moderators: Claudia Prieto and Mehmet Akcakaya
3:00 pm  Deep Learning-based Synthetic Data Generation Improves the Robustness of Automatic Cardiac Function Estimation (Bogdan Gheorghita)
3:08 pm  Using Synthetic Grid Tagged Images to Train a Neural Network for Tag Tracking (Michael Loecher)
3:16 pm  Deep learning for classification of cine CMR images: the first step for a fully automated CMR analysis (Vittoria Vergani)
3:24 pm  Using machine-learning for fully automatic LGE scar quantification in the large multi-national Derivate Registry (Juerg Schwitter)
3:24 pm  Q & A and Discussion (live)

3:45 pm – 4:00 pm Coffee Break

4:00 pm – 5:00 pm Session 6 – Open-Source Demo’s
Moderators: Teodora Chitiboi and Julio Sotelo
4:05 pm  Using Synthetic Grid Tagged Images to Train a Neural Network for Tag Tracking (Michael Loecher)
4:10 pm  Automated Myocardial Segmentation with Deep Learning for Quantitative Analysis of Perfusion CMR (Angel Jimenez-Molina)
4:15 pm  Prototyping Image Reconstruction and Analysis with FIRE (Kelvin Chow)
4:20 pm  GlasgowHeart: A Magnetic Resonance Imaging-derived ‘virtual twin’ cardiac mechanics platform (Hao Gao)
4:25 pm  Playing with FIRE: a framework for on-scanner, in-line fully automated 4D Flow MRI reconstruction, pre-processing and flow visualization (Justin Baraboo)
4:30 pm  The Vascular Model Repository and SimVascular (Martin Pfaller)
4:35 pm  Q & A and Discussion (live), Discussion facilitators: Oliver Wieben, Alistair Young

5:00 pm  Closing remarks (Dan Kim, Susanne Schnell)
5:05 pm  End of Workshop