



CONGENITAL CARDIOLOGY TODAY

Timely News & Information for Congenital/Structural Cardiologists & Cardiothoracic Surgeons Worldwide



PICS-AICS

Pediatric and Adult Interventional Cardiac Symposium

Daily Briefing

Wednesday, September 5th

Preview of the Advanced Imaging Modalities for Congenital and Structural Cardiovascular Interventions at PICS

By Karim Diab, MD



This year at PICS~AICS marks the expected (and inevitable!) incorporation of a full imaging day into the PICS symposium with the full

first day dedicated to imaging techniques. PICS, in collaboration with 3DI3, will provide a full day focusing on various advanced imaging modalities used in cardiac interventions for Congenital and Structural Heart Disease. Drs. Krings and Armstrong will bring 3DI3 to the first day imaging symposium, which will include a hallmark live case, hands-on rooms for individualized instruction and practice, how-to guides, and discussion of advanced 3D imaging techniques.

Set forth below is a brief summary of the schedule of events offered throughout the day.

The imaging symposium will begin with a 3D Rotational Angiography (3DRA) boot camp to give an overview about this technique. 3DRA brings a sophisticated modality that provides astonishing image quality with significant benefit during diagnostic and interventional catheterizations. It provides a thorough anatomic evaluation with 2D CT-like images and 3D reconstruction of complex structures and interactions, with views from various angles. It also provides image-guided therapy with overlay of the 3D reconstruction on live fluoroscopy. It can also allow decreasing radiation exposure by limiting the number of required 2D angiograms. Dr. Gregor Krings in Utrecht, The Netherlands, was one of the earliest adopters of 3DRA technology, and he created the International 3DRA Conference in Utrecht in 2013. He then teamed up with Dr. Armstrong at Nationwide Children's Hospital to create 3DI3, an international conference to share knowledge and skills on all 3D imaging, as it pertains to interventional catheterization for Congenital Cardiology Disease (CHD).

By bringing this imaging symposium to PICS, attendees will learn how to use 3DRA, obtain high quality images quickly, get introduced to fusion of CTA and MRA data with the x-ray system, and learn how to understand vessel-vessel and vessel-airway interactions to enhance procedural success and safety in pulmonary artery stenting, aortic arch interventions and Transcatheter Pulmonary Valve replacement (TPVR). The imaging symposium will teach you why and how to bring 3D into your cath lab to improve your safety, efficiency and therapeutic decision-making.

After an introduction by Drs. Krings and Armstrong, Dr. E. Zahn will go over the advantages of this technique. Dr. Armstrong will then explain

the use of 3DRA. A debate will also take place to go over the three versions of 3DRA available from three vendors. Some tips and technical steps will also be discussed including: using 3DRA of the airway and esophagus by Dr. Molenschot, the role of the cath lab technician by Dr. Laurence, and how to perform measurements using 3DRA by Dr. Fagan.



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The second session of the day will go over collaborating with the non-invasive imaging team during cardiac interventions. Dr. Sathanandam will give some tips and tricks for multi-modality image fusion, Dr. Jones will present a taped case demonstrating the use of echo fusion with fluoroscopy, Dr. Srivastava will talk about intraventricular blood flow dynamics and Dr. Armstrong will discuss how to collaborate with the imaging team.

A live case example of using 3DRA will take place as well from Nationwide Children's Hospital in Columbus.

The afternoon session of the imaging symposium will focus on imaging and intervention in Tetralogy of Fallot (TOF) that will feature some hot topics in the caring for patients with this lesion. Dr. Valente will tackle the question of when to replace the Pulmonary Valve (PV) in TOF, Dr. McElhinney will discuss predicting coronary compression in TVPVR, and Dr. Hanley will discuss what the surgeons needs to know before TOF/PA /MAPCA repair. Dr. Benson will then discuss 3D printing and its use for surgical and interventional planning.

The third session of the imaging symposium will discuss the use of biomedical engineering techniques in assessing coarctation of the aorta. Specifically, Dr. Armstrong will talk about the use of computational fluids dynamics for aortic interventions, Dr. Krings will discuss the use of 3DRA and 4DRA in coarctation, and Dr. Collins will discuss the use of 4D MRI.

The symposium will also feature a hands-on session with vendor rooms for 3DRA post-processing from four vendors. Finally, the day will end with oral abstract presentations. After the end of the day's session, join your fellow attendees in the Exhibit Hall- 3rd Level for a Welcoming Reception. Hope to see you there!!

