Abstract ID: 17272 Title: Microbeamforming for large-aperture ultrasound transducers

Purpose:

**The Philips X6-1 xMatrix ultrasound transducer, introduced in 2010, is a novel 9,212 element, fully sampled 2D array for general imaging ultrasound applications. The elements of the array are fabricated directly onto an integrated circuit (IC) within the transducer, which processes and beamforms signals in real-time. This talk will review general concepts related to sub-array processing (i.e. "microbeamforming") and how these concepts were applied to the design of the X6-1 transducer. Basic microbeamformer data path elements will be discussed, as well as the clinical significance of various operating parameters.**

Methods: N/A

Results: N/A

Conclusion: N/A

Educational Objectives:

1) review sub-array beamforming techniques,

2) discuss imaging modes & scan formats for 3D ultrasound,

3) discuss clinical significance of the X6-1 transducer.