



**PULSE-ECHO QUANTITATIVE ULTRASOUND
BIOMARKER COMMITTEE**

*Agenda for Friday, April 1, 2022
11:00am – 12:00pm*

Attendees: Ivan Miguel Rosado-Mendez (Co-Chair), Anthony Samir (Co-Chair), Michael Wang, (CoChair), Stephane Audiere, Cristel Baiu, Jeffrey Bamber, Paul L. Carson, Shigao Chen, Yuling Chen, Guy Cloutier, Chris De Korte, Aaron Engel, Giovanna Ferraioli, David Fetzer, J. Brian Fowlkes, Jing Gao, Joel Gay, Zaegyoo Hah, Timothy Hall, Aiguo Han, Viksit Kumar, Roberto Lavarello, Amy M. Lex, Jonathan Mamou, Stephen McAleavey, Kibo Nam, Gary Ng, Theodore Pierce, Stephen Rosenzweig, Jonathan Rubin, Paul Sidhu, Timothy Stiles, Theresa Tuthill, Xiaohong Wang, Keith Wear, James Zagzebski, Firouzeh Heidari, Hayley Whitson, Nancy Obuchowski

AIUM Staff: Kelly Phillips

TOPIC	COMMENTS	ACTION ITEMS
Introduction	Welcome (MW - 1 min)	
Funding	Update on funding for phantom study (MW – 1 min)	
Position Paper	Status of position paper (IRM – 1 min)	
AIUM	Feedback from AIUM (IRM – 1min)	

Work Groups	Work Group Progress Reports a. Attenuation (7 min) b. Sound Speed (7 min) c. Backscatter (7 min) d. Phantom (7 min)	
Phantom Study	Discussion on Phantom Study schedule (MW/IRM – 28 min)	Please respond with your intention to participate, dates and exact equipment you have for performing measurements – system model, transducer, system software level
Closing	Closing remarks	
NEXT CALL	Date: May 6, 2022 Time: 11:00am, EST	

MW – Two more vendors to contribute \$4000 each – total contributions \$36,000

IRM – Position paper was accepted pending some minor changes

- QIBA session at AIUM went well

Work Group Progress Reports

VK – Attenuation WG

- Shared strategy for depth-based evaluation
- Reporting attenuation coefficient
 - o For phantom study: as reported by the vendor

- For statistical analysis: ***Need vendor feedback***
 - GT @ 3.5 vs default vendor values (fixed GT)
 - GT @ freq vs default vendor values (fixed GT): Freq. determined by the method below:
 - Calculate variance for all vendors with respect to GT at different frequencies. Choose the frequency which minimized the variance
 - Provide GT att. Vs freq. curve to the approach, approach applies their algorithm on this curve and gets a vendor dependent GT, calculates bias against the (approach dependent GT)
- Action Items
 - Waiting for vendor feedback on ROI depth
 - Finalize the phantom study protocol
 - Waiting for feedback on attenuation value reporting for statistical analysis

SR – Sound Speed WG

- Measurement protocol/Spreadsheet
 - Hologic SoS Imaging Manual Draft posted to Basecamp
 - E-scopics and Mindray Draft manuals pending
 - ROI depth, height, and width recommendations resolved for all vendors
- Manuscript Status
 - Radiology agreed to review, due date is July 1
 - All sections on Basecamp for review
 - Figure legends in progress
 - Plan to discuss finalizing text at next WG meeting

TT – Backscatter WG

- Manuscript (led by Keith Wear)
 - Submitted to Radiology
- Work for phantom study
 - Collecting additional info from manufacturers (Firouzeh collating)
 - Plan for processing RF data (Aiguo, Guy and Roberto) – Aiguo gave update of meeting with Roberto and Theresa
 - May need scripts from manufacturers to read in RF
 - Attenuation to be provided by Attenuation Group

- Will confirm results from different sites equivalent assuming same ROI, window function, etc
- Is ground truth available from Phantom group?
- Potential to develop stand-alone software to disseminate

TS – Phantom WG

- Ongoing Work
 - Some additional work on transmission of the chosen window material
 - Several prototypes have been measured and seem to have desired properties
 - Unsure of the status of an official request to CIRS and Sun Nuclear to produce phantoms
 - MW – make sure specs are finalized and proceed with manufacturing
 - Coupling medium – plan to use different medium on SoS (blinded – supplied to the sites) - a bottle of coupling medium will be sent to match with each test phantom

Round Robin Schedule

- Phantoms will come back to UW at the end of the US stage; both phantoms will go to Tim Stiles for water tank measurements; both phantoms will go to lab in Montreal before starting the international stage
 - 4 weeks for each site to measure and ship the phantoms
 - Consult with Nancy about hazards of interim analysis
 - Possibility to purchase additional phantoms