



**PULSE-ECHO QUANTITATIVE ULTRASOUND
BIOMARKER COMMITTEE**

Agenda for Friday, March 4, 2022

11:00am – 12:00pm

Attendees: Ivan Miguel Rosado-Mendez (Co-Chair), Michael Wang, (Co-Chair), Stephane Audiere, Paul L. Carson, Guy Cloutier, Aaron Engel, Todd Erpelding, Raul Esquivel, Jing Gao, Joel Gay, Timothy Hall, Aiguo Han, Viksit Kumar, Roberto Lavarello, Amy M. Lex, Jonathan Mamou, Kibo Nam, Gary Ng, Stephen Rosenzweig, Paul Sidhu, Timothy Stiles, Michael Thornton, Theresa Tuthill, Keith Wear, James Zagzebski, Firouzeh Heidari, Hayley Whitson, Peter Edmonds, Nancy Obuchoski

AIUM Staff: Kelly Phillips

TOPIC	COMMENTS	ACTION ITEMS
Introduction	Welcome (IRM - 3 min)	
Donations	Update on donations (MW – 2 min)	
Scanning Protocols	Update on scanning protocols (FH – 10 min)	-Comments on google forms ASAP
Work Groups	Work Group Progress Reports <ol style="list-style-type: none"> a. Phantom (15 min) <ul style="list-style-type: none"> - Results from phantom scanning @MGH (A. Ozturk) - Results from CIRS prototype @ UW Madison (IRM) b. Backscatter (8 min) c. Sound Speed (8 min) d. Attenuation (8 min) 	-Phantom WG – Tim will write up some calculations with different oil droplet sizes

Closing	Closing remarks/reminders of QIBA sessions at upcoming meetings (6 min)	
NEXT CALL	Date: April 1, 2022 Time: 11:00am, EST	

MW – received donations from 7 of the vendors; working with 3 remaining vendors; total \$28,000

IRM – shared first draft of round-robin study calendar; to be discussed with PEQUS Leadership; make sure information is accurate after the calendar is shared out

Phantom WG

TS –

- Ongoing Work
 - Some additional work on transmission of the chosen window material
 - Discussion about coupling medium – does sound speed of coupling medium impact measurements of acoustic properties? (Ivan will present results)
 - Ted and Cristel report that it is difficult to achieve low sound speed of 1500 m/s
 - Proposal to slightly alter formulation of background material of Phantom D only
 - Include up to a few percent of vegetable oil to reduce speed of sound of background material to 1500 m/s
 - Expect minimal impact on attenuation or backscatter values
- IRM – Shared results from CIRS Phantom D prototype
 - Summary
 - Differences in attenuation and backscatter coefficient values were observed with different coupling media
 - Differences were statistically significant at the shallowest analysis depth (45mm)
 - Differences decreased and followed opposite trends (increase value with sound speed matching between coupling medium and TM material) at deeper locations (60mm and 70mm)
 - Next Steps:

- Measurement of attenuation, speed of sound, and backscatter coefficient with hockey pucks for bias analysis
- Independent confirmation of observed trends
 - Different operator
 - In-house implementation of reference phantom method
- Analysis of variation of point spread function with different coupling media (relevant for SoS measurement)

Backscatter WG

TT –

- Manuscript (led by Keith Wear)
 - Finalized for submission (currently being reviewed by FDA)
 - 3 options given for attenuation compensation as not as enough evidence to make a recommendation
- Continue work on logistics for phantom study
 - Need to clarify pipeline on how to format and process the data

Sound Speed WG

SR –

- Measurement Protocol/Spreadsheet
 - SoS Imaging Manual Draft posted to Basecamp
 - Updated ROI depth recommendations due to additional vendor input
- Manuscript Status
 - Radiology agreed to review, due date is July 1
 - Edits progressing with updated references and figures
 - Final section (Technical Sources of Variability) in progress

Attenuation WG

VK –

- Update
 - Discussed ROI depth with the vendors:

- No major concerns were raised
 - Vendors requested more time to review
 - Slides on Basecamp
 - Waiting for further feedback from vendors
 - Need more discussion on depth-based evaluation (some vendors have fixed ROI size), waiting for vendor feedback
- Reference phantom data collection: optional to site
- Reporting attenuation value:
 - Phantom study: as reported by vendor
 - Statistical analysis: still need more discussion
- Action Items
 - Consolidate vendor feedback on ROI depth
 - Finalize the phantom study protocol
 - Continue discussions on attenuation value reporting for statistical analysis
 - Continue discussions on depth-based evaluation