

QIBA Ultrasound Shear Wave Speed (SWS) Biomarker Committee & US Coordinating Committee

Friday, May 1, 2015; 11 AM CT

Call Summary

In attendance

Timothy J. Hall, PhD (Co-Chair)

Paul Carson, PhD

Jun Chen, PhD

Shigao Chen, PhD

Wui K. Chong, MD

David Cosgrove, MD

Manish Dhyani, MD

Gilles Guenette, RDMS, RDCS, RVT

Christopher Hazard, PhD

Ted Lynch, PhD

Mike MacDonald, PhD

Wayne Monsky, MD, PhD

Mark Palmeri, MD, PhD

Marijean Trew, BSc

Theresa Tuthill, PhD

Matthew Urban, PhD

Keith Wear, PhD

Hua Xie, PhD

RSNA

Julie Lisiecki

Moderator: Dr. Hall

Review of April 10th US SWS BC call notes

- Approved as written

Round-4 Clinical Study Update (Sources of Measurement Variability in SWS)

- The IRB is approved and in place, and physicians have been contacted to begin recruitment
- Target recruitment is 20 patients
- An IRB amendment is being filed to include all patients who have had a biopsy; this will not impede project progress

Round-4 Industry Digital Phantom Update

- LS-Dyna and Abacus algorithms are being studied, using cross validation and comparisons of reconstructed group velocities that were tested on 48 different configurations outlying for elastic studies
- A comparison between different systems and boundary conditions showed no significant sources of variance
- A proposed project for Round-5 will build upon the digital phantoms and explore digital effects, demonstrating the robustness of the various software products
- Manufacturers are actively involved, and two new groups have joined the effort: Zonare and Samsung
- Other manufacturing partners include: FibroScan, GE, Philips, Siemens, SSI, and Toshiba
- Anonymization of system comparisons recommended for publication consideration
- Digital phantom data will be posted on the RSNA Quantitative Imaging Data Warehouse (QIDW): <http://www.rsna.org/qidw/>
- Open access specific configuration files and code have been posted to GitHub:
 - [git@github.com:RSNA-QIBA-US-SWS/QIBA-DigitalPhantoms](https://github.com/RSNA-QIBA-US-SWS/QIBA-DigitalPhantoms)
 - [git@github.com:RSNA-QIBA-US-SWS/fem.git](https://github.com/RSNA-QIBA-US-SWS/fem.git)
- Dr. Shigao Chen proposed a project update for the next System Dependencies/ Phantom Task Force call, on May 22nd

New Project Proposals

- Dr. Monsky is interested in working on a US Contrast / Perfusion Phantom, if Contrast is accepted as a new biomarker

Profile

- Dr. Garra has drafted the first US SWS Biomarker Profile, with assistance from Drs. Samir and Dhyani.

Action items:

- Dr. Carson requested that project proposals for Round-5 be distributed to the Biomarker Committee for review and comment, prior to the QIBA Steering Committee Meeting on May 5th
- Additional projects may be suggested after discussions occur regarding the new proposed biomarkers:
 - Contrast Enhanced Ultrasound (CEUS)
 - Volume Blood Flow
 - Sub-harmonic-aided pressure estimation (SHAPE)

- In preparation: Spatial Measurements
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Ultrasound SWS Calls (Fridays, 11 am CT):

May

- **May 8: No call (Day after QIBA Annual Meeting)**
 - **May 15: No call**
 - **May 22:** System Dependencies/ Phantom Task Force (Dr. Palmeri)
 - **May 29:** Clinical Applications Task Force (Dr. Samir)
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June (proposed)

- **June 5: No call**
- **June 12:** US SWS Biomarker Ctte (Mr. Milkowski, if available)
- **June 19:** System Dependencies/ Phantom Task Force (Dr. Wear, if available)
- **June 26:** Clinical Applications Task Force (Dr. Samir, if available)