QIBA Ultrasound Shear Wave Speed (SWS): System Dependencies Subcommittee

Friday, July 12, 2013; 11 AM CT

Call Summary

Notes provided by Dr. Palmeri

In attendance		**RSNA**
Mark Palmeri, MD,PhD (Co-Chair)	Stephen McAleavey, PhD	Joe Koudelik
Keith Wear, PhD (Co-Chair)	Andy Milkowski, MS	Julie Lisiecki
Paul L. Carson, PhD	Kathy Nightingale, PhD	
Shigao Chen, PhD	Daniel C. Sullivan, MD	
Jingfeng Jiang, PhD		

Moderator: Mark Palmeri, MD, PhD

- The call summary from 2013-06-14 was approved
- Andy M. asked about follow up experiments to be performed following Shigao Chen's presentation about depth dependencies in the existing phantoms.
    - Shigao followed up with Ted Lynch @ CIRS about fabricating a cube phantom, vacuum sealed, that could be imaged in any orientation.
    - Still waiting on progress from CIRS about fabrication about such a phantom.
    - Current phantom cannot be imaged in this way w/o a completely destructive test.
    - Overall motivation of this is to delineate and phantom-specific confounding effects.
- Paul asked what biologically might be dependent on patient orientation, gravity effects, etc.
    - Kathy commented on the fact that some literature is reporting dependencies on liver location, transducer compression, etc. Could be a task for clinical subcom to consider.
- Shared FEM tool is online (https://ultraweb.bme.duke.edu/QIBA)
    - Username: **qiba**
    - Password: **brU8u4Uv**
- NIBIB Numerical Simulation Tools Proposal
    - Steve M. provided an overview of the development of a finite difference tool to simulate shear wave propagation
    - J. Jiang (MTU) discussed utilization of FEBio (open-source FE solver) to provide an alternative to commercial FE packages for shear wave simulation
    - We can compare w/ existing FE datasets generated using LS-DYNA
    - Kathy commented on getting these tools made known to a wide audience for research and teaching purposes
    - Steve suggested a potential future IEEE short course surrounding these tools
    - Dan Sullivan commented on existing numerical simulation tools being used in other arenas, (Digital Reference Object and a PET simulation tool), that has led to active development and some significant changes on the commercial end.
- Discussion of spectral content analysis from CIRS phantom data and simulation data
    - Mark discussed circulating a spreadsheet collecting spectral data from phantom data that already has been acquired.
    - Paul asked if any US system has tried to do its reconstruction using a FibroScan or MRE-type excitation.
    - VE phantoms; single stiffness? Should multiple stiffnesses be utilized for these studies? Need to follow up with Tim about this.

Next QIBA US SWS calls:

- QIBA US SWS Technical Committee, **7/15/2013**, Monday, 1 pm CT (Dr. Hall)

Proposed August Call Schedule:

Date	*Time (CT)*	*Day*	*Committee/ Subcommittee*	*Moderator*
8/09/2013	11:00 am CT	Friday	US SWS Technical Committee	Dr. Garra
8/12/2013	1:00 pm CT	Monday	Phantom System Testing & Measurement Subcommittee	Dr. Hall
8/16/2013	11:00 am CT	Friday	System Dependencies Subcommittee	Dr. Wear

Other: IEEE/ UFFC meeting in Prague, July 21 - 25

****

RSNA Staff attempt to identify and capture all committee members participating on WebEx calls. However, if multiple callers join simultaneously or call in without logging on to the WebEx, identification is not possible Call participants are welcome to contact RSNA staff at QIBA@RSNA.org if their attendance is not reflected on the call summaries. QIBA wiki