

**QIBA Ultrasound Shear Wave Speed (SWS)  
Phantom-System Measurement Testing**

Monday, August 27, 2012; 1 PM CT

Call Summary

**In attendance**

**Brian Garra, MD (Co-Chair)**

**Timothy J. Hall, PhD (Co-Chair)**

Cristel Baiu, MS

Jeremy Bercoff, PhD

Paul L. Carson, PhD

Shigao Chen, PhD

David Cosgrove, MD

Steven E. Fick, PhD

Nicolas Rognin, MSc, PhD

Cedric Schmitt, PhD

Daniel C. Sullivan, MD

Keith Wear, PhD

**RSNA**

Joe Koudelik

Julie Lisiecki

**Viscoelastic Characterization of Biological Tissues and Biomaterials with Commercial Systems (Dr. Schmitt)**

- Methods used for establishing visco-elastic properties for materials discussed
  - Selected methods closely mimic how the material will be used
  - In context of shear wave elastography, calibration is adapted to soft biomaterials
  - Technologies currently used:
    1. Dynamic Mechanical Analysis (DMA) Systems
    2. Oscillatory Rheometry
    3. Time-Temperature Superposition (TTS)
    4. Hyper-Frequency Viscoelastic Spectroscopy (HFVS)
- Comparison of these commercially available systems was also discussed with regard to the sample, the strain rate, and the frequency range.
  - Commercially available systems were compared.
- Further discussion of frequency range suggested to better establish material properties of interest, including:
  - Sample geometries
  - Manufacture of samples
- Dr. Schmitt's presentation is available on the QIBA WIKI for group reference:  
[http://qibawiki.rsna.org/index.php?title=Phantom\\_Development\\_Subcommittee](http://qibawiki.rsna.org/index.php?title=Phantom_Development_Subcommittee)

**Next steps:**

- For the next t-con, Dr. Hall will discuss the device for measuring complex shear moduli that was developed by the University of Wisconsin-Madison.

**Next calls:**

- Phantom Subcommittee – **Monday, September 24, 2012 at 1:00 PM CT** (Drs. Hall and Garra to moderate)

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](mailto:QIBA@RSNA.org) if their attendance is not reflected on the call summaries.

(Please see page 2 for additional upcoming meetings)

**Upcoming QIBA US SWS Calls**

<b>Date</b>	<b>Time (CT)</b>	<b>Day</b>	<b>Committee/ Subcommittee</b>	<b>Moderator</b>
09/10/2012	1:00 pm CT	Monday	Clinical Applications & Biological Targets Subcommittee	Mr. Cohen-Bacrie

09/17/2012	1:00 pm CT	Monday	US SWS Technical Committee	Dr. Garra
09/24/2012	1:00 pm CT	Monday	Phantom Subcommittee	Dr. Garra
09/28/2012	11:00 am CT	Friday	System Dependencies Subcommittee	Dr. Palmeri
10/01/2012	1:00 pm CT	Monday	Clinical Applications & Biological Targets Subcommittee	Dr. Samir

**Conferences:**

- **International Tissue Elasticity Conference (ITEC 2012): Ultrasound – Deaville, France (October 2 – 5)**
  - *Dr. Hall will be giving a brief presentation on QIBA efforts.*
- **IEEE Ultrasonics Symposium – Dresden, Germany (October 7-10)**