

## QIBA Contrast Enhanced Ultrasound (CEUS) Biomarker Committee (BC) Call

Friday, January 12, 2018; 11 AM CT

### Call Summary

| In attendance                       |                           |                            | RSNA           |
|-------------------------------------|---------------------------|----------------------------|----------------|
| Mike Averkiou, PhD (Co-Chair)       | Madison Gallagher         | Zaiyang Long, PhD          | Joe Koudelik   |
| Todd Erpelding, PhD, MSE (Co-Chair) | Christian Greis, PhD      | Mary (Beth) McCarville, MD | Julie Lisiecki |
| Paul Carson, PhD                    | Gerard (Ged) Harrison, BS | Lihong Pan, PhD            |                |
| J. Brian Fowlkes, PhD               | Kenneth Hoyt, PhD, MBA    | Theresa Tuthill, PhD       |                |
| Peter Frinking, PhD                 | Hui Jiang, PhD            |                            |                |

**Moderator:** Dr. Averkiou

#### Announcement:

- Dr. Todd Erpelding with Canon Medical Systems (formerly Toshiba Medical) has agreed to serve as a third co-chair for the CEUS BC, leveraging his industry knowledge to aid the group's development

#### Discussion included:

- Dr. Carson encouraged all CEUS BC members to review the QIBA US SWS Profile – soon to be distributed for public comment
- Dr. Averkiou provided an update on the group's work regarding a standardized protocol for the phantom measurements
- Figure 4 from the RSNA 2017 poster, which demonstrates the time-intensity curve (TIC) analysis from different manufacturers, was further reviewed and explained.
  - It was determined that the measurements are neither better nor worse when compared amongst scanners
  - Update for activities during the last 2 months:
    - The UW team is working to set the specs of the phantom so that other investigators can create standardized TIC curves and proceed with system and software evaluation
  - There are 2 primary sources of error and possible discrepancies: (a) the imaging system and the parameters that were used during the acquisition of the CEUS video loop. (b) The analysis software and the parameters used in curve fitting.
    - The issue of contrast recirculation will become important when fitting curves to clinical data but is not critical for phantom data as the current set-up does not include recirculation.
- As a reminder, the CEUS Profile will focus on the following:
  - Bolus technique using wash-in and wash-out values
  - Clinical emphasis on perfusion of liver lesions
- Dr. Averkiou mentioned Dr. Lassau's recent *Ultrasound in Medicine and Biology* (UMB) article titled, "[Toward a Standardization of US Scanners for DCE-US: Methodology and Phantoms](#)," and noted that the objective of that work was to find commonalities amongst Toshiba scanners, similarly to what the CEUS BC is trying to accomplish.

#### Action Items:

- Dr. Carson asked all CEUS BC members to be prepared to review the QIBA US SWS Profile – to be distributed for public comment in the relatively near future

Ultrasound CEUS BC QIBA wiki page: [http://qibawiki.rsna.org/index.php/Ultrasound\\_CEUS\\_BC](http://qibawiki.rsna.org/index.php/Ultrasound_CEUS_BC)

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#### WebEx Calls:

- **Feb 2:** SWS BC, **Feb 9:** CEUS BC, **Feb 16:** Ultrasound Coordinating Committee

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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.