

## QIBA PDF–MRI (DWI) and IMI QuIC-ConCePT Next Steps T-con

Tuesday, 22-October-2013 at 1 PM CDT

### Call Summary

#### Participants

Gudrun Zahlmann, PhD (Co-moderator)  
Michael Boss, PhD  
Thomas L. Chenevert, PhD  
David J. Collins, BSC, BA  
Nandita DeSouza, MD

Philippe Garteiser, PhD  
Marko Ivancevic, PhD  
Edward Jackson, PhD  
Yan Liu, PhD  
David M. Morris, PhD  
Bernard E. Van Beers, MD, PhD

#### RSNA

Joe Koudelik  
Madeleine McCoy

#### General Discussion

##### Phantom Collaboration Overview

- Dr Boss provided an update on the QIBA ADC phantom prototype fabricated at NIST
- Slight modifications made to material choices; a combination of ABS and polycarbonate now being used
- The 195mm diameter phantom should fit into most head coil arrangements, fully rotatable in all directions
- PVP media now contained in smaller 20mm polypropylene tubes to allow more interior space for ice chips
- Logistical issue remains related to procuring crushed or shaved ice suitable for this size of phantom at future clinical imaging sites; research sites typically have adequate equipment
- Nylon screws will be replaced with a stronger material to avoid potential over tightening by laboratory staff
- Preliminary phantom testing done with a 3T Siemens platform; will be expanded to include 1.5T platforms by our European colleagues
- Metal shavings and trapped air bubbles may be causing imaging artifacts; these will be addressed before Dr. Boss ships the phantom to first European imaging site (Univ Manchester)
- Long-term goal is developing a simple, robust phantom that can be utilized beyond research-based imaging sites

##### Next steps

- Small structural modifications planned to increase phantom robustness (Dr. Boss)
- Air bubbles in 20mm vials to be removed (Dr. Boss)
- Shipping of phantom (US and Europe) deemed straightforward; no liquids/ hazardous materials involved
- Proposed shipping order for phantom prototype
  1. University of Manchester...contacts: Drs. Alan Jackson and David Morris
  2. Institute of Cancer Research & Royal Marsden NHS Trust (ICR) ....contact: Drs. Nandita DeSouza & David Collins
  3. Hospital Beaujon (Paris)...contact: Dr. Ralph Sinkus
- Dr. Morris to provide shipping address to Dr. Boss; shipping from Colorado anticipated by October 29th
- Dr. Boss to continue fabrication of additional phantoms in parallel and ship to Dr. Chenevert (U Michigan)
- Round-Robin scanning to engage as many sites as possible
- Dr. Boss to develop a general ice-water imaging protocol to be included with each phantom, a test/retest procedure based on a 48 hour site-to-site turn-around schedule, and a draft outline for the 2014 May ISMRM Meeting abstract
- Initially, images to be stored on a Univ Manchester FTP site
  - transfer to the QIBA Quantitative Imaging Data Warehouse (QIDW) suggested for the future
- Centralized data analysis offered by Dr. Morris at the Univ Manchester
- Group to rely on email for future updates; next group call to be determined