

## QIBA Lung Density Biomarker Committee (BC) Call

May 10, 2017 at 2 PM CT

### Call Summary

#### In attendance

Sean Fain, PhD (Co-Chair)

Matthew Fuld, PhD (Co-Chair)

Andrew Buckler, MS

Heather Chen-Mayer, PhD

Gonzalo Vegas Sanchez-Ferrero, PhD, MSc

Stephen Humphries, PhD

Philip Judy, PhD

Greg Kinney, MPH, PhD

Miranda Kirby, PhD

Nancy Obuchowski, PhD

#### RSNA

Joe Koudelik

Julie Lisiecki

#### Profile Update – Next Steps

- Drs. Fain, Fuld and Lynch have been working together offline to resolve a few remaining Profile questions
- Phantom choice remains undetermined; both the ISMRM and COPDGene phantoms discussed
- It has been agreed that a simpler phantom would be best; Plans will be built on the work that Dr. Humphries has done for his Round-6 project, akin to a mini field test

#### COPDGene Phantom Analysis (Dr. Judy)

- Dr. Judy provided an overview of the COPDGene phantom data analysis that he prepared using U-Iowa software
- Goal of the analysis was to determine whether there is a significant change in measurements of various materials in the COPDGene phantom
- Significant change would mean the CT scan of the COPDGene phantom should be repeated
- If the scan identifies a consistent change, the site / trial physicist would need to determine required action
- Recommendations based on findings assuming a 5 Hounsfield Unit (HU) standard deviation as significant change were as follows:
  - 4 HU change in the mean CT number of air inside the COPDGene phantom
  - or
  - 2.5 HU change in the mean CT number of air outside the COPDGene phantom
- Data suggest that the phantoms were measured differently at various sites or that the stability of the scanner varied from site to site; more analysis may be needed
- It is necessary to establish that a site is consistent over time
- Not enough data is available to determine how to correct between scanner makes and models; tighter precision is needed
- Dr. Judy to follow up on calculating a qualifying measurement range for the scanners

#### Project Update (Dr. Humphries)

- Ancillary study for COPDGene was approved
- Will have two different types of phantom scans
- Determining methods to apply to these scans
- Trying to harmonize measurements for correction factors
  - A pilot subset of scans is being considered to test harmonization procedures

**Next call:** Updates on the proposed comparative study will be discussed

**Next call:** [Wednesday, May 24, 2017 at 2 pm CT](#)