QIBA Lung Density Biomarker Committee (BC) Call
May 10, 2017 at 2 PM CT
Call Summary

In attendance
Sean Fain, PhD (Co-Chair)  Gonzalo Vegas Sanchez-Ferrero, PhD, MSc  Greg Kinney, MPH, PhD
Matthew Fuld, PhD (Co-Chair)  Stephen Humphries, PhD  Miranda Kirby, PhD
Andrew Buckler, MS  Philip Judy, PhD  Nancy Obuchowski, PhD
Heather Chen-Mayer, 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
  - 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