

QIBA Lung Density Biomarker Committee (BC)

April 8, 2015 at 2 PM CT

Call Summary

In attendance

Philip F. Judy, PhD (Chair)

Sean Fain, PhD

Karen Procknow, RT (R)

RSNA

Joe Koudelik

Andrew Buckler, MS

Matthew Fuld, PhD

Jered Sieren, BSRT (R) MR CT

Julie Lisiecki

Heather Chen-Mayer, PhD

Nancy Obuchowski, PhD

Daniel Sullivan, MD

Project Proposals for Round-5 (2015-2016)

- Dr. Judy reached out to committee members that might have projects for funding consideration
- Mr. Sieren to follow up with Drs. Newell and Hoffman regarding possible development of a new anthropomorphic phantom project
- Possible projects to focus on (1) IR reconstruction, (2) volume correction, (3) vendor CT number calibration
- Funding to be used for access to data and resources, analysis software purchases, travel to project-related meetings, etc.

AEC Project Update Using CIRS phantom

- Review of the noise index at different dose levels on GE scanners
- Search for commonalities based on noise performance and functional dependence of noise and its numerical index
 - This noise index review technique will be also be adapted for Siemens scanners
 - The project is relatively close to completion, though consultation with Siemens experts may be necessary to adapt the protocol properly

Analysis of COPDGene Cases

- Histogram data analysis via VIDA software is being compared to same images using Brigham analysis
 - Mr. Sieren suggested asking Dr. Lynch about assistance with analysis and getting in touch with Carla Wilson, data manager for COPDGene

Vendor COPDGene Phantom 2 Scanning

- Dr. Fuld is working with the analysis software developer to resolve issues with data sorting and organization
- Dr. Judy suggested that the vendors task force consider whether or not funding may be helpful in achieving their goals for the phantom scanning project
- Dr. Fain is trying to get a more robust phantom via the Kyoto group, a slightly modified version of the COPDGene phantom, to better measure spatial resolution
- Mr. Sieren is working with Phantom Labs on development of a cat phan insert which would be more anthropomorphic

Profile

- Templates with new conformance language to be re-distributed to the group for reference
 - These are also available on the QIBA wiki (<http://qibawiki.rsna.org>)
- Remaining questions:
 - Analysis Issues – Open Questions
 - Correction for scanner model variation – Vendor study results
 - Volume Correction - list possible methods
 - Specification noise – constrained by resolution
 - Conformance
 - Long term precision of phantom CT numbers

Next call: Wednesday, April 22, 2015 at 2 pm CT, Topic: Vendor recommended profile changes

- Dr. Fain to moderate; Dr. Judy will not be available
- Dr. Fain to confer with Drs. Fuld and Hoppel before the call re: vendor update