

QIBA COPD/Asthma Technical Committee

June 6, 2012 at 2 PM CT

DRAFT Call Summary

In attendance

Philip F. Judy, PhD (Co-chair)

Paul Carson, PhD

Martin Connell, BSc

Barbara Croft, MD

Michael Flynn, PhD

Bernice Hoppel, PhD

Zachary Levine, PhD

John D. Newell, Jr., MD

Frank Ranallo, PhD

Daniel C. Sullivan, MD

RSNA

Joe Koudelik

Julie Liseiecki

Phantom Discussion

- Reservations expressed regarding the COPDGene phantom and need to stack 3 of them together for scanning – possibly a “lung-man” anthropomorphic phantom might be better, such as the one utilized by the CT Volumetry Tech Ctte
- The “Kyoto lung-man” phantom is excellent but cost-prohibitive at \$20,000
- Ability to simulate the biological trachea needed; Mr. Connell indicated that he may have a phantom that would meet this requirement for the group to consider at a much more reasonable cost

Joint teleconference with CT Volumetry on Monday, June 18th (Dr. Judy):

- Dr. Mozley invited Dr Judy to present updates on COPD/Asthma Tech Ctte projects during the 6/18 call at 11 am CT; all COPD/Asthma TC members are invited to join the call to represent the committee and participate (call-in details will be sent closer to the call date)
- Drs. Hoppel and Levine will update the group regarding the issues related to qualifying scanner vendors with phantoms as well as creating a density and length standard based on NIST tested foams

Upcoming meetings and deadlines

- **AAPM meeting (July 28 – Aug 2nd, 2012)**
 - Computed Tomography Subcommittee will meet Sunday 7/29/2012, from 4 PM – 5 PM
- **SPIE meeting (February 9-14, 2013 Disney Coronado Springs, Orlando Florida)**
 - As a larger meeting venue, SPIE proposed to present Tech Ctte project updates
 - SPIE Abstract Deadline 7/30/2012
 - Would like to engage NLST trial investigators, i.e., Dr. Flynn
- **Update - Proposed 2 day workshop in collaboration with COPD Biomarker Qualification Consortium (CBQC)**
 - No one has responded to Dr. Sullivan yet regarding interest in such a workshop
 - Workshop proposed for January 2013 with a one day focus on CT and one day on another imaging biomarker

RFP for software development (airway measurements)

- Algorithms, recon kernels, and specialized techniques mentioned for use in software development
 - Detection of 30% change in tumor volume as a criterion
- Spiromics protocol also of interest, along with dose reduction algorithms
- Use of plug-ins suggested that are publicly available to analyze phantom data

Other topics

- Consideration regarding an “idealized COPDGene phantom” for qualification of scanner models

Next Steps

- Dr. Hoppel to prepare notes for 6/18 joint call with CT Volumetry Tech Ctte on issue of qualifying and tentative reconstruction problem (with preview to Dr. Judy)
- Dr. Levine also to prepare notes for 6/18 call regarding foam materials tested by NIST for use with the COPDGene Phantom and a “length standard”
- Airway measurements software RFP to be updated by Dr. Judy with draft to group for review before next regular call
- **Please Note:** [Plan for summer activities on back of this summary for reference](#)

Next calls:

- *Joint call with CT Volumetry, **Monday, June 18, 2012, 11 am CT***
- *QIBA COPD/Asthma Update Call, **Wednesday, June 27, 2012, 2 pm CT***

QIBA COPD/Asthma Technical Committee Summer Events

1. AAPM - **7/28/2012 – 8/2/2012**
 - Face to face meeting?
 - Status of round robin; round robin protocol
2. SPIE Abstract Deadline **7/30/2012** Meeting: 9-14 February 2013 Disney Coronado Springs, Orlando Florida
 - Evaluation of dose reduction protocols
 - NLST results – Use of low dose exams
 - Plan - face to face
3. COPD Genetics Conference **9/27/2012- 9/28/2012** AMSTERDAM

Proposed Summer Schedule (*times shown in Eastern*)

6/18/2012 - Monday 12 PM Conference Call with CT Volumetry TC

Agenda – Describe progress, plans, and possible co-ordination

1. Collaboration with COPD Biomarker Qualification Consortium (CBQC)
2. Evaluations of COPDGene Phantom
 - a. RFP for public domain software to analyze COPDGene Phantom images
 - b. Round-robin scans of COPDGene Phantom with lung reference foams
 - c. Optimization of airway size measurements
 - d. Use Phantom for qualification of CT vendor models for COPD studies
3. NIST lung reference foams
4. Normative CT lung density data to diagnosis early emphysema
5. Lung QCT biomarkers

6/27/2012 - Wednesday 3 PM Regular Conference Call

1. Status of collaboration with CBQC
2. Evaluation of low dose reconstruction protocols

7/11/2012 - Wednesday 3 PM Regular Conference Call

1. Review RFP for computer program to analyze COPDGene
2. Plan a database of images of COPDGene Phantoms
3. Plan comparison of airway size algorithms

7/25/2012 - Wednesday 3 PM Regular Conference Call

1. Review NIST AAPM Presentation
2. Results of NIST scans of COPDGene Phantom

8/8/2012 - Wednesday 3 PM Regular Conference Call

1. Qualification of scanner models using COPDGene Phantom
2. Experience with Aquilion

8/22/2012 - Wednesday 3 PM Regular Conference Call

1. Review of CT lung density clinical applications
2. Normative CT lung density data

9/12/2012 - Wednesday 3 PM Regular Conference Call - TBD