

## QIBA CT Small Lung Nodule (SLN) Biomarker Ctte (BC) Call

7 October 2021 at 1 PM CT

Call Summary

*Additional notes provided by Dr. Mulshine*

### In attendance

Samuel Armato, III, PhD (Co-Chair)

David Gierada, MD (Co-Chair)

James Mulshine, MD (Co-Chair)

Rick Avila, MS

Murali Ayyappillai, M. Tech

Kirsten L. Boedeker, PhD

Alexander Guimaraes, MD, PhD

Timothy J. Hall, PhD

Artit Jirapatnakul, PhD

Annelise Malkus, PhD

Nancy Obuchowski, PhD

Kevin O'Donnell, MASc

Juan Carlos Ramirez-Giraldo, PhD

Anthony Reeves, PhD

David Yankelevitz, MD

Lifeng Yu, PhD

Gudrun Zahlmann, PhD

### RSNA

Angela Colmone, PhD

Fiona Miller

Joe Koudelik

Julie Lisiecki

### Moderator: Dr. Mulshine

- Dr. Mulshine reported that a recently published paper in the British Journal of Radiology (reference listed below).
  - Outlines how med physic teams in the UK are using the Small Nodule Conformance Process in their scale-up efforts to access image quality in their work on implementing national screening.
  - They reported an example of a CT scanner model that initially failed the Small Nodule Conformance process using a specific kernel, but crowd sourcing the user base of the Small Nodule Conformance process quickly identified an alternative kernel for that instrument that did allow that CT scanner to pass the conformance process.
- The second reference provided below is a peer- reviewed report of the presences of spatial warping in a thoracic imaging trial.
- The article is published in the *Journal of Medical Imaging* and describes the steps taken to objectively demonstrate the existence of this finding.

### Presentation of Validation Experiments OHSU/Mt Sinai (Rick Avila)

- Mr. Avila presented the results of validation testing designed by the Small Nodule Profile committee for Accumetra analysis software conformance
- Mt. Sinai and Oregon Health and Science University (OHSU) participated in the testing, each manually measuring seven scan sets and calculating MTF50 (see attached PowerPoint slides from Rick Avila)
  - Mr. Avila thanked all volunteers for their valuable time and dedication to this project
- Conclusion was that actor results achieved using different methods were quite similar for Accumetra, OHSU, and Mt. Sinai

### Publications shared (Dr. Mulshine)

- Iball GR, et al. **Establishing scanning protocols for a CT lung cancer screening trial in the UK.** *The British Journal of Radiology (BJR)*. 2021 Sept. 24; 20201343. DOI: [10.1259/bjr.20201343](https://doi.org/10.1259/bjr.20201343). Online ahead of print.
- Claudia I. Henschke CI, Yankelevitz DF, Yip R, Archer V, Zahlmann G, Krishnan K, Helba B, Avila R. **Tumor volume measurement error using computed tomography imaging in a phase II clinical trial in lung cancer.** *J. Med. Imag.* 2016; 3(3), 035505. DOI: [10.1117/1.JMI.3.3.035505](https://doi.org/10.1117/1.JMI.3.3.035505).

### Next call (QIBA Leadership)

- Discuss / present details of the resolution measurements and validation
- Additional discussion

### Announcement (Dr. Mulshine)

- The [Prevent Cancer Foundation](#) will host a virtual [Quantitative Imaging Workshop](#), November 4-5.
- QIBA members will be presenting, and all are welcome.

### Wiki Updates for Technical Confirmation (ongoing)

- Mr. Avila to update Profile [technical confirmation resolution sheet](#) with latest details pending resolution of validation studies
- BC leaders / Mr. Avila to provide RSNA staff with documents to post on the wiki (e.g., the technical confirmation / feasibility surveys, technical confirmation feedback resolution spreadsheet, etc.)
- These details were discussed on recent calls (summaries can be found on the [wiki](#))
- The “shalls” in the Profile needed to be translated to the checklist and vice versa for document alignment

### Action items (ongoing)

- Mr. Avila to create checklists and divide assignments among relevant BC members

---

**Next call:** *TBD per doodle poll*

---