

QIBA Multi-parametric Metrology Call

17 June 2020 at 10 AM CT

Call Summary

Notes provided by Mr. Buckler

In attendance

Nancy Obuchowski, PhD (Chair)
Andrew Buckler, MS
Jana Delfino, PhD
Nandita deSouza, MD

Alex Guimaraes, MD, PhD
Timothy Hall, PhD
Charles Hatt, PhD
Erich Huang, PhD

Gene Pennello, PhD
David Raunig, PhD
Daniel Sullivan, MD
Xiaofeng Wang, PhD

RSNA

Joe Koudelik
Julie Lisiecki

Moderator: Dr. Wang

Approval of Call Summary

- The notes from June 1, 2020 were approved as presented

Use Case #4, Radiomics: (Dr. Wang)

- Radiomics is viewed as a potentially exciting approach to measure quantitative imaging biomarkers useful in helping guide patient treatment decisions, but to do so requires that the measurements be validated against truth standards that may be measured objectively, that is, separate from the imaging measurement itself defined externally.
- We recognize that radiomics sometimes differs in the sequence with which the objectively defined measurement target is recognized relative to its discovery. Specifically, radiomics is often applied first, as a discovery tool, rather than after, as a measurement approach. Consequently, the measurement target may be articulated after, rather than before, radiomics experimentation.
- When an apparently interesting or significant association is made by radiomics, for example to a health outcome, a testable hypothesis must be formed that explicitly establishes the putative measurement target hypothesized to account for the observed effect.
- Then all the rest of the QIBA methodology applies, irrespective of radiomics being used or not, as appropriate for the claim (that is, using the prior developed QIBA methodology for traditional measurements, or the newer methodology being developed by the subgroup for event prediction or phenotype classification).

Next call: Dr. Raunig to present on Multi-dimensional descriptor (Use case 1) on Monday, June 29th at 2 pm CT

Call Schedule:

Date:	Topic:	Lead:
Monday, June 29 (2 pm CT)	Use case 1: Multi-dimensional descriptor	Dr. Raunig
Wednesday, July 15 (10 am CT)	Use case 2: Phenotype classification	Dr. Delfino
Monday, July 27 (2 pm CT)	Use case 3: Risk prediction	Dr. Huang
Wednesday, Aug 12 (10 am CT)	Use case 4: Radiomics	Dr. Wang

Use cases:

- Use case 1:** (Multi-dimensional descriptor) a panel to determine how to care for a patient
- Use case 2:** (Phenotype classification) rule or decision tool to diagnose phenotype
- Use case 3:** (Risk prediction) several biomarkers will be evaluated to create a prediction or risk score
- Use case 4:** (Radiomics) may not have a specific biomarker for reference