

**QIBA fMRI Bias Work Group Call**  
Tuesday, March 19, 2013 at 10 AM CT  
Draft Call Summary  
*(Additional notes provided by Dr. Voyvodic)*

**Participants**

James Voyvodic, PhD (Chair)  
Barbara Croft, PhD  
Ted DeYoe, PhD  
Cathy Elsinger, PhD

Erich Huang, PhD  
Jeffrey Petrella, MD  
Laura Rigolo, MS  
Yong Zhou, PhD

**RSNA**

Joe Koudelik  
Julie Lisiecki

**Discussion:**

- Discussed the meaning of “bias” and “agreement” as used in a profile
  - Bias – relationship between biomarker measure and ground “truth”
  - Agreement – relationship between biomarker measure and other measures of the biological/physiological property of interest (none of which may necessarily represent “truth”)
  - Cannot assess bias in the absence of some reference truth
  - Can evaluate quantitative agreement in the absence of truth
  - The Metrology working groups are actively engaged in trying to clarify the issue of how to assess bias/agreement in the absence of a true reference. This is a problem for many biomarkers.
  - We will probably continue to use the term “bias” in our discussions, but keeping in mind that technically we mean “agreement”.
- Jeff Petrella asked what measure(s) we should use as the basis for evaluating agreement of fMRI
  - Examples may be: task behavior, intraoperative recordings, prior knowledge of functional anatomy, functional deficits, animal studies, vascular responses
  - This question was tabled for future discussion
- Continuing our previous discussions of the literature on validation of fMRI
  - We have identified additional publications with direct comparisons of electrophysiological measures and BOLD fMRI measures in animal studies (e.g. Goense & Logothetis monkey vision)
  - We should summarize the existing literature on agreement between neural, vascular, and BOLD signals in a paragraph or two for the Profile

**Next steps:**

Continuation of discussion on next call for the technical committee – March 27<sup>th</sup>

- *Points to cover:*
  - Clarification of Profile references to “bias”
  - Expanded introductory/ descriptive paragraph incorporating concept of bias/agreement
  - Relationship between fMRI signal (i.e., BOLD signal) to brain/neuronal function
  - How best to collect data in efforts to support claim language
  - Need to identify what we are we attempting to measure
- Dr. Voyvodic to send paragraph to Dr. DeYoe as a starting point for the Profile introduction
- Dr. Elsinger to update Profile and embed introductory details for distribution to the group
- Drs. Elsinger and Voyvodic will not be available for 3/27 or 4/2 calls.
  - Dr. DeYoe will lead the 3/27 technical committee call, and will poll the group to determine whether there should be a call scheduled for 4/2.

**Next calls:**

- QIBA fMRI Technical Committee, **Wednesday, March 27, 2013 at 11 am CT**
- QIBA fMRI Bias Working Group, **Tuesday, April 2, 2013 at 10 am CT - (TBD)**