**QIBA Musculoskeletal (MSK) Biomarker Committee (BC)**

Tuesday, November 21, 2017 at 10 AM CT

**Call Summary**

**In attendance**

<table>
<thead>
<tr>
<th>Thomas Link, PhD (Co-Chair)</th>
<th>Youngkyoo Jung, PhD, DABR</th>
<th>Rob Peters, PhD</th>
<th>Joe Koudelik</th>
<th>RSNA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Xiaojuan Li, PhD (Co-Chair)</td>
<td>Rick Kijowski, MD</td>
<td>Ravi Regatte, PhD</td>
<td>Susan Weinmann</td>
<td></td>
</tr>
<tr>
<td>Angie Botto-van Bemden</td>
<td>Leon Lenchik, MD</td>
<td>Ramya Srinivasan, MD</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Robert Boutin, MD</td>
<td>Elizabeth Mirowski, PhD</td>
<td>Carl Winalski, MD</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Garry Gold, MD</td>
<td>Vladimir Mlynarik, PhD</td>
<td>Cory Wyatt, PhD</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Peter Hardy, PhD</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**RSNA**

**Moderator:** Dr. Link

**Introduction of New Members**

- Angie Botto-van Bemden – Director of OA programs, Arthritis Foundation
- Elizabeth Mirowski – CEO, QalibreMD
- Kathryn Keenan – NIST
- Vladimir Mlynarik – Medical University of Vienna
- Ramya Srinivasan – University of California, San Francisco
- Peter Hardy – University of Kentucky

**Update on Arthritis Foundation Study**

- Multi-vendor, multi-site, reproducibility phantom study funded by Arthritis Foundation
  - Demonstration project to help set up for a larger clinical trial
  - Three phantoms (UCSF has one from GE-NBA study) were ordered and received in support of this study from the same batch of GE-NBA study
  - Phantom specifications are from UCSF and were manufactured by the Phantom Lab, containing 2%, 3% and 4% agarose gel phantoms

- Aim is to standardize protocols and perform cross-validation of cartilage T1rho/T2 values in phantoms and human subjects between sites (Cleveland Clinic, UCSF, Univ of Kentucky, Albert Einstein College of Medicine) and vendors (GE, Siemens, Philips)
- Participating sites to confirm that study candidates do not contain metal objects (from surgery), which may affect measurements, and no severe OA
- Differences in data across vendors to be identified
- Suggestion to add spin echo T2 sequence (similar to OAI protocol)
- OAI sequences to be included within the Siemens acquisition protocol
- Pulse sequences to be kept similar across all scanners for standardized data processing
- Patient handling was discussed, e.g. sitting in a chair for 30 min prior to the MRI
- Goal is to complete scanning within 6 months
Update on Phantoms (Dr. Li)
- Dr. Mirowski at QalibreMD, Dr. Keenan from NIST, and Dr. Li are collaborating on phantom development
- Plan to write NIH/SBIR grant to develop phantom
- Next step is to involve clinical application; Dr. Mirowski is reaching out to clinical sites to ask them to participate in the phantom study

Meta-Analysis and Editorial
- Focusing on reproducibility, a meta-analysis paper on cartilage compositional biomarkers will be published in OA&C
- This was reviewed by Drs. Li and Obuchowski and found to provide material required for review of T2/T1rho imaging biomarkers
- Dr. Kijowski has suggested that Drs. Li and Link write an editorial concerning this paper. This is currently work in progress.

Next Steps
- The November 29 QIBA Working Meeting at the RSNA Annual Meeting and breakout sessions may help provide guidance on Profile-writing; standard sequences and protocols to also be discussed
- Dr. Hardy to share B0/B1 mapping protocols with Dr. Li offline
- In efforts to accommodate MSK members who are unable to join t-cons on the third Tuesday at 10 AM CT, an alternate time slot on the third Wednesday at 9 AM CT will be used on a quarterly basis, effective in February 2018
- RSNA staff to include upcoming call schedule with call-in details

Next Call: Tuesday, January 16, 2018 at 10 AM CT

RSNA Staff attempt to identify and capture all committee members participating on WebEx calls. However, if multiple callers join simultaneously or call in without logging on to the WebEx, identification is not possible. Call participants are welcome to contact RSNA staff at QIBA@RSNA.org if their attendance is not reflected on the call summaries.