QIBA Perfusion, Diffusion and Flow – MRI Biomarker Committee (BC) Call
Wednesday, July 19, 2017 at 11 AM (CT)
Call Summary

Participants			**RSNA**
Michael Boss, PhD (Co-Chair)	Daniel Krainak, PhD	Ying Tang, PhD	Julie Lisiecki
Mark Brown, PhD	Chen Lin, PhD	Brian Taylor, PhD	Susan Weinmann
Thomas Chenevert, PhD	Nancy Obuchowski, PhD	Ona Wu, PhD	
Jacob Fluckiger, PhD	Julia Patriarche, PhD	Junqian (Gordon) Xu, PhD	
Wei Huang, PhD	Nicolas Rognin, MSc, PhD	Dewen Yang, MD, PhD	
Edward Jackson, PhD	Samir Sharma, PhD	Gudrun Zahlmann, PhD	
Harrison Kim, PhD, MBA			

Moderator: Dr. Boss

DSC TF Update (Dr. Wu) ***some information taken from presentation slides**

- Status of Profile development: Draft Version 1.0
    - Literature search refinement underway
        - Dr. Wu provided a virtual tour of the Zotero library where articles found in the DSC literature search are being compiled
        - Volunteers needed to assist with the literature review
        - Aim to have reproducibility studies sorted into types by the end of August
    - K2 removed as a Claim
    - Use of gadolinium contrast agents to be synchronized with DCE Profile
    - Rough draft of Profile to be circulated for review by the DSC TF by the end of 2017
        - Suggestion for DSC TF Profile-Writing subgroup to request feedback from the full DSC TF before a complete draft is finished
- Status of "Round 5" Funded Projects (Dr. Wu)
    - Dynamic Susceptibility Contrast MRI (DSC ΔR2*) Phantom
        - Goals:
            - Develop prototype DSC phantom from which a gradient of R2* values will be measured
            - Create generic acquisition protocols to assess CNR of R2* measurements and stability across time across multiple vendors
            - Estimate reproducibility and feasibility of performing these measurements across multiple centers (5 sites) at multiple time points (one-week apart)
        - Progress:
            - Phantom (NIST – Katy Keenan)
                - Same layout as that used for DWI phantom consisting of 13 vials, inner and outer rings with same concentrations, 3 vials with 0%
                - Components: agarose + GdCl3+EDTA

- MRI acquisition protocol to be sent to other sites and tested on other vendors
- Software Analysis
    - Matlab GUI (inspired by Drs. Chenevert and Malyarenko, University of Michigan) for ROI placement
    - Accept DICOM or NifTI format (flip images if necessary)
    - Reads 3 rotations
    - Outputs change in R2*

- Status of "Round 6" Funded Projects (Dr. Wu on behalf of Dr. Erickson)
    - A web-based tool for creating DSC DROs - interface/software to select input image parameters has been developed
        - Two of three software packages were collected for creating DSC DROs, and a web-based interface was created
            - Python, used at Mayo, was converted to MATLAB at MGH
            - Vanderbilt: prefers to share pixels rather than software; required storage being evaluated versus extracting from The Cancer Imaging Archive (TCIA), which will have very large collection

        - User Interface (UI) was developed by Mayo
        - Initial testing of online analytics under the new Girder platform may be performed by Drs. Barboriak and Laue; Dr. Boss to follow up with Dr. Erickson for details
        - UI is modeled in FLASK, Dr. Quarles to provide pixel data for testing
        - Provides a model/template for other DRO creation tools that can be referenced from the QIBA website at: https://www.rsna.org/QIDW/)
        - Profile completion hinges upon completion of this groundwork project

    - Next Steps:
        - Obtain data from Quarles and decide correct 'size'
        - Confirm UI is useable
        - Convert UI to Web (FLASK)
        - Convert compute models to Docker
        - Connect Web UI to Docker (Grunt)
        - Load UI and compute modules into Amazon Web Services (AWS)

QIBA Dashboard (Dr. Boss)

- Outlines every step in the Profile process and allows group designee to track and mark tasks as they are completed
- Coordinating Committee tab needed with a general modality activity overview to be shared with the Steering Committee
- This document is currently being tested, but Dr. Boss to send Google Sheet link to PDF-MRI Task Force leaders if Mr. O'Donnell confirms that it is ready for distribution

Upcoming PDF Task Force Updates:

- August 2: DCE Task Force
- August 16: DTI Task Force
- August 30: ASL Task Force
- September 13: DWI Task Force
- September 27: DSC Task Force

➢ **If you plan to attend the 2017 RSNA Annual Meeting, the QIBA Working Meeting will be held on Wednesday, November 29, 2017, 2:30 – 5 PM**

Next PDF-MRI BC Call: Wednesday, August 2, 2017 at 11 AM CT

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