IEEE Signal Processing Society Synthetic Aperture Standards Committee (SASC)
P3382 Working Group on Performance Metrics for MRI Image Reconstruction
Meeting Minutes for Thursday, September 7, **10:00a – 11:00a EDT** via teleconference
https://ieeesa.webex.com/ieeesa/j.php?MTID=m45285c4cd444cef463940a44632cb015

1. Call to Order – *the meeting was called to order at 10 am*

2. Introduction and Affiliation Declarations
   a. Please provide name, email, affiliation on Google form
   b. Please attest on Google form to having read the IEEE policies on copyrights, behavior, and patents
   c. Establish Quorum – *quorum was not established so the meeting proceeded without taking any actions*

3. Approval of Agenda – *no action was taken to approve the agenda*

4. Approval of Previous Meeting Minutes – *no action was taken to approve the minutes from July 26*

5. IEEE Patent, Behavior, and Copyright Policies – *the policies were reviewed*
   a. Review here if necessary -- IEEE policies
   b. Call for patents – *a call was made and no patent claims were presented*

6. Discussion Topics:
   a. Regularizers for MRI Images; e.g., total variation, learned convex regularizers – *the group discussed the following:*
   - *How do we address the impact of different regularizers on image quality?*
   - *Noise in the acquisition process – normalize for input noise, variability in image captures*
   - *Regularizers create bias towards a desired solution, is deep learning introducing new pathology?*
   - *Single metric may not capture all facets of image quality. What aspects are important for clinical images?*
   - *Image capture/metric must not be inferior to current state of the art and applicable to the clinical task*
   - *Keep metrics generic, applicable to both portable and conventional MRI*
   - *Task-based image quality metrics, segmentation, vs lesion detection*
   - *Each MRI system must have its own quality threshold*
   - *Portable MRI may have reduced functionality, compare quality based on task, e.g. to ultrasound*
   - *How to assess image quality in general, e.g. volume data*
   - *PSNR, SSIM, perceptual measures such as FID*
   - *Need both task-based, general metrics, earth-movers metrics*
   - *There are 2 categories of metrics, objective and subjective, include Dr's opinion*

7. New Business – *There was no new business*

8. Future Meetings – ***The next meeting will be Thursday, October 5 at 10 am EDT***
   - ***Mariya volunteered to give a presentation on her MRI research and her ideas for standardizing image quality metrics***

9. Adjourn – ***the meeting adjourned at 10:56 am***