# Monday, February 23, 2015

### Hosted by Intel in Santa Cara, USA

Presentations Expected:

* OPTICOM (P.NATS / AVHD, 30 min, Chris)
* Qualcomm (image quality, 30 min, James)
* British Sky Broadcasting (AVHD, 20 min, Florence) challenges faced when doing subjective testing for OTT streaming
* Acreo and UPM (AVHD, 30 min, Samira & Kjell)
* Acreo (statistical analysis, 15 min, Kjell)
* Netflix (AVHD) may be able to present their needs/requirements which should be relevant for http streaming
* AGH University (AVHD, 30 min, Lucjan)
* AGH University (MOAVI, Mikolaj)
* AGH University (QART, Mikolaj & Lucjan)
* Intel (Tuesday at 10:30am, on HEVC, 15 min, Mark)
* UWS (UltraHD results, Naeem)

## Project Updates

**ILG**—nothing to report

**AVHD**—(1) video only objective quality metrics, may interact with UHD, (2) adaptive streaming, of high interest, will consider P.NATS effort this week, and (3) audiovisual quality, e.g., subjective testing, mapping & objective models.

**Hybrid Perceptual/Bitstream**—Officially closes at this meeting, pending consultation with Co-Chairs not in attendance.

**Tools & Subjective Labs**—see http://vqegstl.ugent.be/

* Update of Acreo software available, open source, renamed “VQEG Player”, based on work by Acreo & University of Nantes; includes 3DTV support, Windows based
* AV quality estimation tool made available by DT Tlabs

Agreement was reached that Nicolas Staelens steps down as Co-Chair, to be replaced by **Bert Vankeirsbilck** (University of Ghent).

**JEG**—encourages new joint projects.

**3DTV**—adjust subjective testing methods for 3DTV via (1) Ground Truth Database, to evaluate quality of videos using paired comparison (PC), to evaluate efficacy of different scales (e.g., ACR); PVSs have been created; (2) COSPAD1, influence of environment on subjective testing, (3) objective metrics, waiting until subjective methods stable, (4) analysis of formats side-by-side, top-bottom and tiled with DVB; test plan being discussed this week. Feedback to be given on ITU draft Recommendations related to 3D subjective testing.

**QART**—widened scope to include other applications such as medical imaging. Has begun proposing changes to ITU-T Rec. P.912 with results from QART research.

**JEG-Hybrid**—Joint development of an improved hybrid objective metric. Currently running objective metrics on 80,000 PVSs to serve as a robust training database (i.e., train Hybrid model from FR model predictions). Database includes a large variety of packet loss. One goal is publications, including three last year.

Agreement was reached that Nicolas Staelens steps down as Co-Chair, to be replaced by **Glenn Van Wallendael** (University of Ghent).

**RICE**—videoconferencing & interactive subjective testing is on hold until stronger interest is expressed by participants. Active work focuses on physiological measurements related to subjective quality, such as EEG (such as Sebastian Arndt’s work).

**MOAVI**—no reference quality indicators to detect artifacts. MOAVI is contributing to other projects, currently JEG-Hybrid and VIME.

**HDR**—getting started on subjective & objective measurements of HDR, Dolby is doing work in this area

Agreement was reached that **Elaine Jin** (Intel) will be added as a Co-Chair to HDR.

**UHDTV**— Creation of Ultra HD database: 10 4K video contents are available on request. It will be shared through external HDD however the source of the contents is <http://medialab.sjtu.edu.cn/web4k/index.html> and is free to download. Initial testing and subjective evaluation is performed for quality evaluation. H.264/MPEG-4, H.265/HEVC and VP9 codecs are used to encode and perform quality evaluation.

**VIME**—This new project was formed at the July 2014 VQEG meeting, to examine objective metric design and subjective testing for user applications of image quality, intended to be extensible to video quality. VIME has been meeting by audio call. (VIME stands for video and image model for consumer content evaluation)

**eLetter**—Two issues of the VQEG eLetter were released in 2014. Goal this meeting is to pick topic & editors for the next eLetter.

**VQEG Progress Report**—Being put together for 2014, Kjell is leading this effort.

## Liaison Activity

**MPEG**—HDR initiative underway, evaluations expected by June. Future video coding is gathering requirements for standard coder to follow HEVC; process expected to start around 1 year. HEVC will not be revised to include specialized support for interlaced content.

**ITU-R WP6C**—November 2014 meeting had few contributions due to the short interval from prior meeting. HDR is of high interest. Starting to revise the 3D subjective testing Recommendation. There are three incoming liaisons (see meeting files for details).

**ITU-T SG12**—There was no report on SG12 activities.

**ITU-T SG9**—There are five incoming liaisons (see meeting files for details). One liaison request that VQEG validates whether previously standardized objective metrics extend to HEVC. The UltraHD group will be asked to consider this topic. New project mentioned to establish a mapping function to optimize video parameters to minimize transmission bandwidth while maintaining optimal quality (e.g., based on resolution, screen size). Interest was mentioned to provide feedback within AVHD (e.g., from Netflix, Qualcomm).

Agreement was reached that **Chulhee Lee** (Yonsei University) will be added as a Co-Chair to UltraHD.

**Cost Action ICI003**—The Qualinet project is closed, however closely related initiative has been proposed. Regardless, there is agreement to continue funding the QoMEX conference.

Proposal to draft a liaison that VQEG could host the Qualinet deliverables if that website looses funding.

**QoMEX**—Greece in May. Paper submission deadline is March 1; special session “On The Dark Side of the Moon” submission is March 15.

**ICDM Project**—There is potential within the next version of the IDMS for joint projects, particularly on 3D and HDR.

**CPIQ (IEEE 1858)**—Camera image quality metrics, no-reference metrics, such as a color saturation metric.

**EBU Liaison to VQEG-HDR**—This liaison is assigned to the HDR group.

## 3DTV Session

This was an editing session for document “VQEG\_3D\_2015\_016\_Draft ITU Rec P.3D-disp-req Nantes Rev1.docx”. The output was document “VQEG\_3D\_2015\_016\_Draft ITU Rec P.3D-disp-req Rev2.docx”. This document contains some proposals that were made off-line after the session closed (i.e., during the break), which will be discussed during the next 3D session.

## VIME Session

See VIME project update in file <tbd> for a detailed project overview.

**Presentation by Phil Corriveau and Michele Saad (Intel)**

Strong industry need for an NR metric of image quality, representative of consumer images. The rest of the presentation summarized a paper that will be published shortly, describing an image quality subjective test and NR image quality objective model. Tool (metric) to be shared with VIME. See file <tbd>.

**Presentation by James Goel (Qualcomm)**

What are consumer images? Consumer use cases (DSLR, digital still cameras, rear mobile camera, front mobile camera, action style camera) & consumer-generated web content. Automatic consumer modes by use cases (e.g., action, landscape); may be able to detect mode by automated algorithm. Break problem by use case. ImageNet (image-net.org) provides a huge database of images, categorized by people (no MOS). Use restrictions (e.g., Qualcomm cannot publish or share images, can publish link, can report aggregate results). 4 million images with human categorization. See file <tbd>.