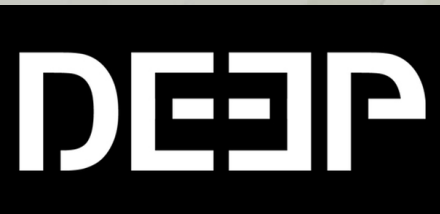# Monitoring of Audio-Visual Quality by Key Indicators (MOAVI)

Mikołaj Leszczuk

Faculty of Computer Science, Electronics and Telecommunications
Department of Telecommunications

Santa Clara (CA), 2015-02-24

Presentation Plan

- **Reminder on Monitoring of Audio Visual Quality by Key Indicators (MOAVI)**
- **Previous status**
- **Report for 2014H2 (progress since last VQEG meeting)**
- **Plans for 2015H1 (future work)**

Monitoring of Audio Visual Quality by Key Indicators

REMINDER ON MOAVI

Reminder on MOAVI

- **Mission**:
  "To collaboratively develop No-Reference models for monitoring individual audio-visual service quality artefacts"

- **Goals**:
  - To develop set of key indicators describing service quality in general and by removing implementation constraint
  - To select subsets for each potential application
  - To concentrate on models based on key indicators contrary to models predicting overall visual quality

MOAVI Co-Chairs

- ## Silvio Borer

  - **SwissQual, Zuchwil, Switzerland**

  - **silvio.borer@swissqual.com**

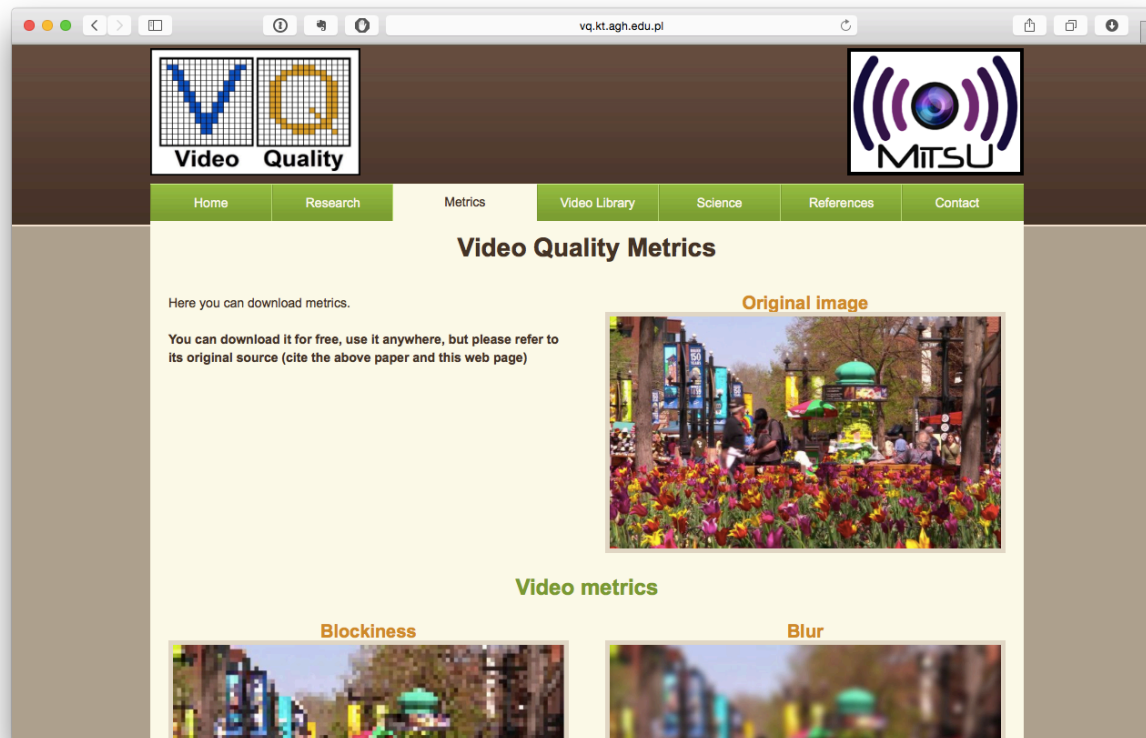- ## Mikołaj Leszczuk

  - **AGH University of Science and Technology, Krakow, Poland**

  - **leszczuk@agh.edu.pl**

Signal-Based, No-Reference Indicators for Artefacts of Various Origin

- **Capturing Artefacts**: blurriness, exposure, interlace, etc.

- **Processing Artefacts**: blockiness, blurriness, flickering, reduced spatial and temporal resolution, etc.

- **Transmission Artefacts**: blackout, block loss, freezing, slicing, etc.

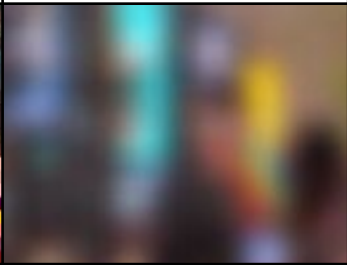- **Displaying Artefacts**: blackout, slicing, etc.

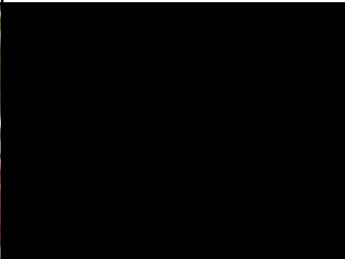# Free MATLAB Audio-Video Quality Indicators Rolling Out Online at http://vq.kt.agh.edu.pl/
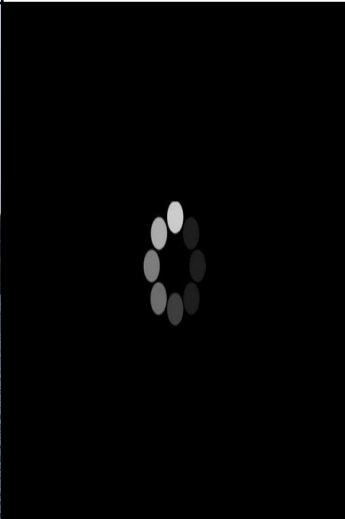
PREVIOUS STATUS

Available Video Indicators (1/2)

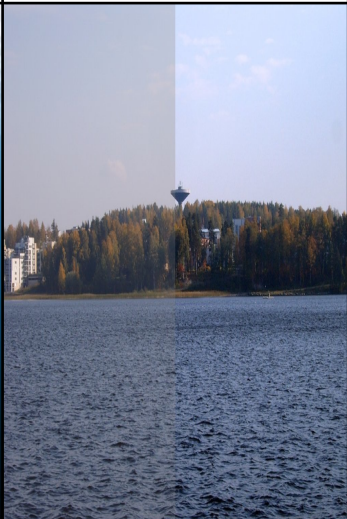| Blockiness	Bluriness	Exposure	Interlace	Noisiness
Framing & Pillar-/ Letter-Boxing	Flickering	Blackout	Spatial Activity	Temporal Activity

Available Video Indicators (2/2)

Brightness	Contrast	Freezing	Block Loss	Slicing

Available Audio Indicators

Mute	Clipping
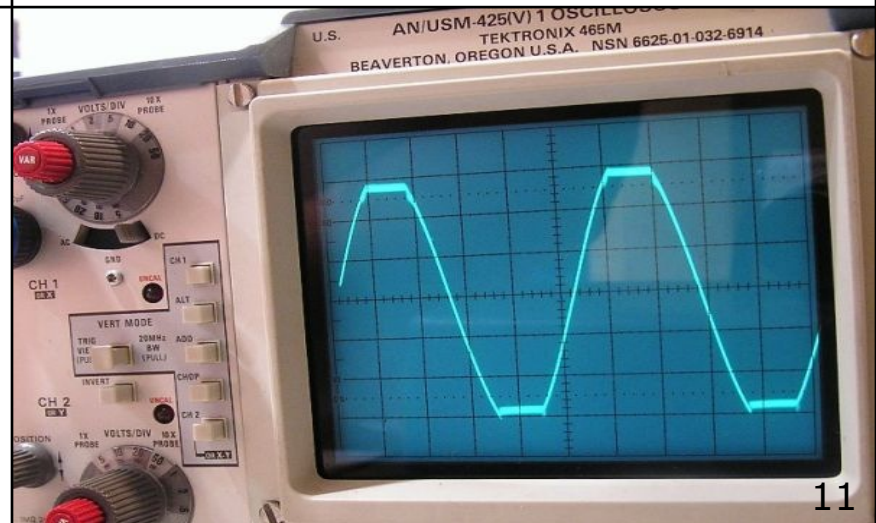
Contribution to JEG-Hybrid

All indicators have been already contributed to JEG-Hybrid as all-in-one, „easy-to-run" binary executable

Progress since Last VQEG Meeting

REPORT FOR 2014H2

New Video Indicators

Pillar-boxing	Letter-boxing	Vignetting	Rainbow Effect
Aspect Ratio Error	Ghosting	Ringing	Grey-Scale
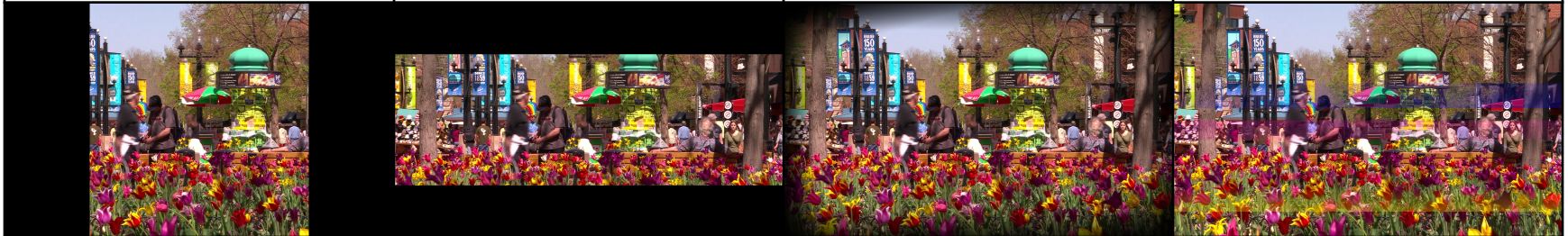
Contributions to Other VQEG Projects

- **JEG-Hybrid:**
  - **New JEG Wiki article prepared**
  - **Info on MOAVI video quality research**
  - **Links to quality metrics and results**
  - **Also extensive video library**

- **VIME – initial contribution**

New Application Area – Quality Checks for DEEP
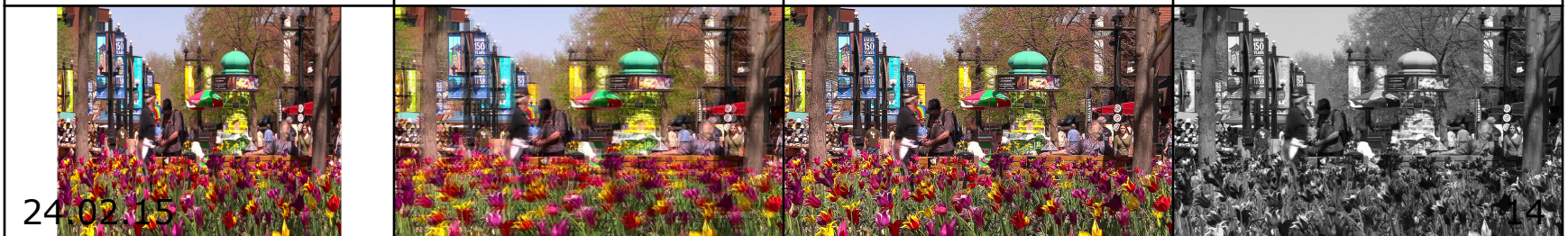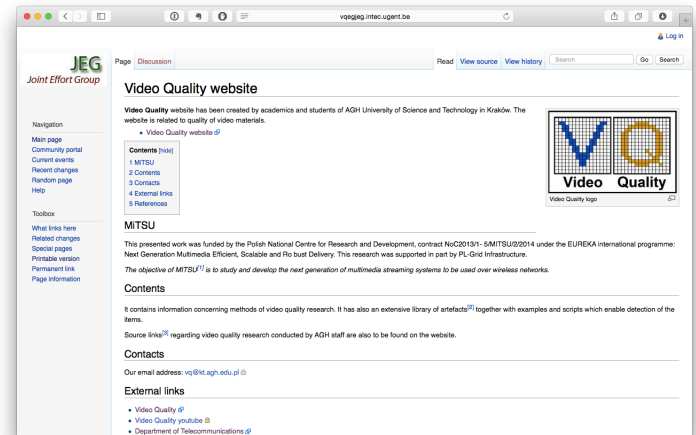
- **DEEP** – "second-screen" content discovery solution

- **Auto e-zines for movies, celebrities & other topics**

- **Using sources beyond traditional structured ones**

- **Internet as source of unstructured visual info**

- **Selection of e-zine images to look as manually edited**

- **Need to analyze images received from providers**

Future Work

PLANS FOR 2015H1

New Video Indicator

Intrinsic Resolution

More Experimental Setups for Verification of Indicators

Experimental Setup	Indicators
Threshold	Blockiness, Bluriness
MOS (ACR≈DCR)	Exposure, Noisiness, Block Loss, Freezing, Slicing
None but planned	**Contrast, Brightness, Flickering**
None and not planned	Interlace, Framing, Blackout, Mute, Clipping

24.02.15

Other Future Work

- **Integration of MOAVI indicators within JEG virtual machines**
- **Further contributions to VIME**
- **Further quality checks for DEEP application**

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THANK YOU FOR YOUR ATTENTION!