

Emerging Technologies Group

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VQEG Fall Meeting, Nov 18-21, 2024



General Information

- The main focus is devoted to exploring new areas and research domains that impact the current ongoing efforts at VQEG.
- Webpage: <https://vqeg.org/projects/emerging-technologies-group-etg/>
- We typically invite researchers from different domain to know about the VQEG and also to give a talk VQEG.
- Main areas we want to explore:
 - ML based compression, quality assessment and enhancement.
 - Greening of streaming.

Previous Invited Talks

- Robust Perceptual Similarity Metrics for Images and Videos
- On the work by MPEG Systems Smart Contracts for Media Subgroup
- Introduction to NTIRE Workshop on Quality Assessment for Video Enhancement
- Perception: The Next Milestone in Learned Image Compression
- Compression with Neural Fields
- Sustainable/Green Video Streaming
- VQEG Spring Meeting June 2023
 - Presentations:
 - Towards Real-Time 4K Image Super-Resolution (Marcos Conde, University of Würzburg)
 - Learned-based image/video compression (David Minnen, Google)
 - **Panel Discussion**
 - Zhi Li (Netflix), Ioannis Katsavounidis (Meta), Richard Zhang (Adobe), Mathias Wien (RWTH Aachen).

Previous Presentations

Last VQEG Spring Meeting

- Presentation **116: Assessing Quality of AI Generated Images and Videos**, Abhijay, Portland State University

This effort led to a joint journal paper titled:

Quality Prediction of AI Generated Images and Videos: Emerging Trends and Opportunities, [Abhijay Ghildyal](#), [Yuanhan Chen](#), [Saman Zadtootaghaj](#), [Nabajeet Barman](#), [Alan C. Bovik](#)

Preprint available on ArXiv here: <https://arxiv.org/abs/2410.08534>

- Presentation **126: Augmented Reality Head-Up displays and digital rear view mirrors in cars**, Kjell Brunnström, RISE
- Presentation **137: Energy-aware Spatial and Temporal Resolution Selection for Video Streaming**, Mohammad Ghasempour, University of Klagenfurt
- Presentation **142: Updates on testing activities in MPEG VQA**, Mathias Wien, RWTH Aachen University
- Presentation **148: Subjective QoE Assessment for Virtual Reality Cloud-based First-Person Shooter Game**, Henrique Souza Rossi, (LTU) Luleå University of Technology

Scheduled Presentations

Tuesday, 1300-15:20 UTC/BST (First Presentation)

- Presentation **209: Approach for evaluation of CfP responses in MPEG**, Mathias Wien, RWTH Aachen University, Germany

Wed, 15:05-17:00 UTC/BST (First two presentations)

- Presentation **203: Quality Assessment of AI Generated Content and AI Enhanced Content**, Nabajeet Barman, SIE, London, UK
- Presentation **218: Foundation Models Boost Low-Level Perceptual Similarity Metrics**, Abhijay Ghildyal, Portland State University/SIE, USA

Special Session Proposal Submission to [QoMEX 2025](#)

(Working) Title: Quality Assessment of AI Generated and AI Enhanced Content

Organizers:

- Dr. Wei Zhou, Cardiff University, UK, Email: ZhouW26@cardiff.ac.uk
- Dr. Nabajeet Barman, Sony Interactive Entertainment, Email: Nabajeet.Barman@sony.com
- Dr. Saman Zadtootaghaj, Sony Interactive Entertainment, Email: Saman.Zadtootaghaj@sony.com
- Prof. Guangtao Zhai, Shanghai Jiao Tong University, China, Email: zhaiguangtao@sjtu.edu.cn
- Prof. Alan C. Bovik, University of Texas at Austin, USA, Email: bovik@ece.utexas.edu

Topics of interest:

We are seeking papers that include, but are not limited to, the following topics:

- 1) Subjective quality assessment methods for evaluating AI-generated and AI-enhanced content;
- 2) Objective quality metrics tailored to AI-driven content, including generation and/or enhancement processes;
- 3) New benchmark datasets for the evaluation of quality in AI-generated and AI-enhanced content;
- 4) Bias and fairness considerations in the generation and enhancement of AI-driven content;
- 5) Quality-driven generative and/or enhancement models;
- 6) Survey on quality evaluation methodologies for AI-generated and AI-enhanced content;
- 7) Applications of quality assessment in practical scenarios involving both AI-generated and AI-enhanced content, across industries like media, education, and marketing.

Contact

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[Project Homepage](#)