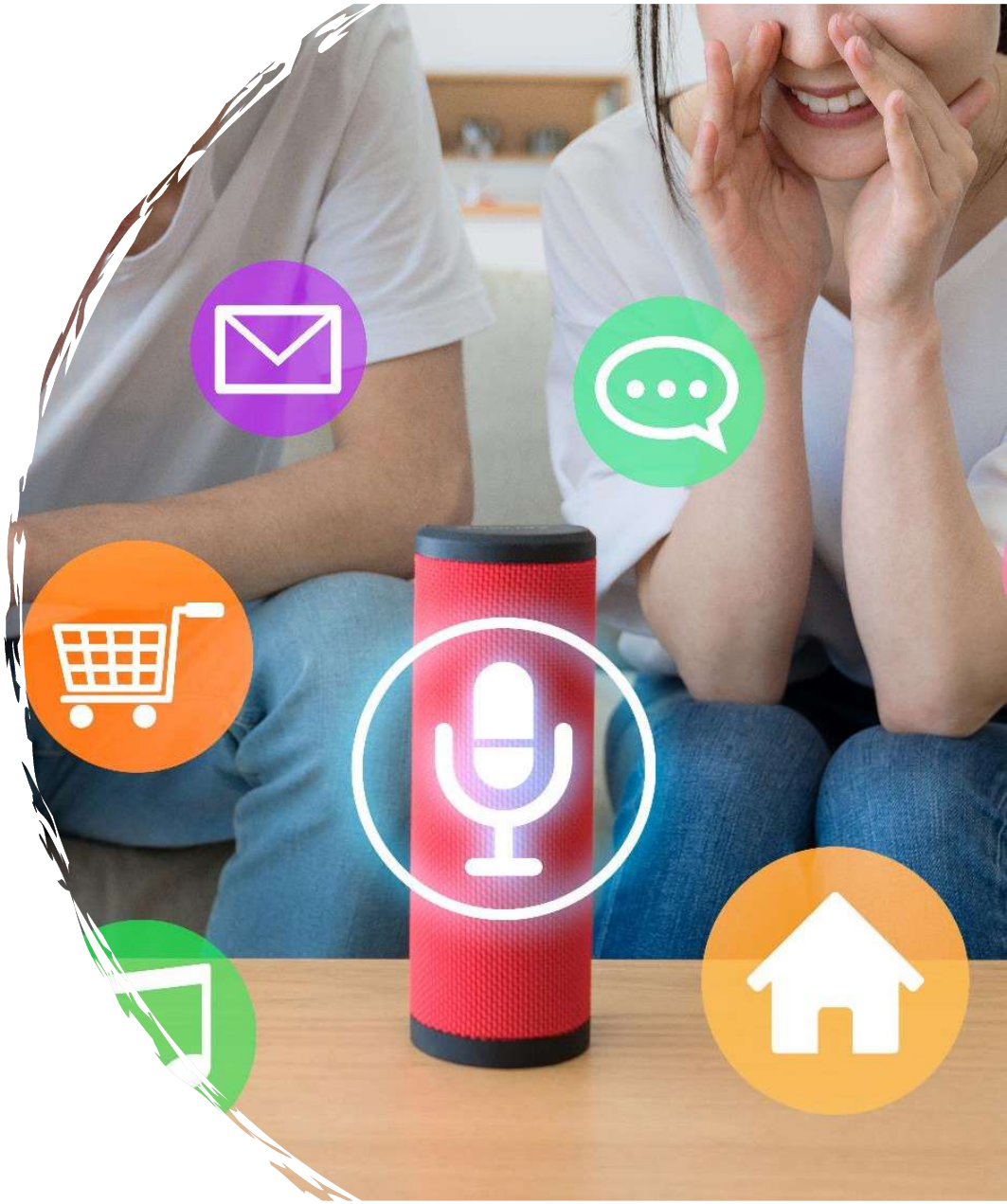
STQ Workshop

STQ: Ongoing work and challenges



Scott Isabelle, STQ chair

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Some of the established areas:

- Acoustic test methods and requirements for speakerphones, handsets, headsets, and wrist-worn devices, up to super-wideband
- Methods for reproducing realistic background noise environments in a lab
- Objective predictors of perceived quality of speech with noise-reduction processing

Some newer areas:

- Test methods and requirements for automatic noise cancellation in headsets
- Objective predictor of perceived listening effort in speech communications
- Reproduction of acoustics/reverberation
- Acoustic test methods for voice-controlled devices
  - Updates to noise and reverb reproduction methods
- Characterization of new ETSI speech codec LC3+

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Work in progress: see portal.etsi.org, STQ Work Programme

- Perception of conversational speech quality
  - Methods for subjective evaluation: echo and double-talk
  - Objective predictor of speech quality in conversation
- Relation between listening quality and listening effort
- Methods for reproducing tissue-conducted speech
- Update of predictor of speech quality for noise reduction using latest machine-learning techniques

Some challenges:

- *What are the best methods for reproducibly measuring the impact of spatialized audio on perceived quality, listening effort, and communications effectiveness in real and virtual environments?*
- *How can we reliably measure the impact on listening and conversational quality of dereverberation processing?*
- *What evaluation methods are needed for dynamic time-varying conditions, including adaptive processing techniques?*
- *What are the impacts on current evaluation methods of emerging machine-learning media processing techniques?*