

## Minutes of the AES Technical Committee on Coding of Audio Signals

The meeting was called to order at the 142nd AES Convention, Berlin, at 13:00, Monday May 22, 2017 by Jürgen Herre, co-chair. A short round of introduction of the attendees was done.

The agenda was approved, as shown in Annex 1. The chair welcomed attendees, shown in Annex 2, and thanked them for participating in the TC meeting.

The minutes of the last TC meeting at Los Angeles had been posted on the TC email reflector and then uploaded to the TC web site.

The Chair explained the scope of the work and contributions of a TC to the attendants that have not participated in such a meeting before.

The Chair noted the activities at the 140<sup>th</sup> convention that were in some sense relevant to this TC:

- The Coding TC's workshop W19 on “Modern Hybrid Audio Coding” on Mon. May 22 16:30 - 18:00 at Salon 4+5 London
- Session P11. Audio Coding on Sun. May 21 13:00 - 14:00 at Salon 1 Moscow

This convention's Heyser Lecture speaker is Prof. Jörg Sennheiser.

As an excursion, the committee discussed the effect that for the same format (e.g. “mp3”) different subjective audio quality may be produced by different encoders, which is due to the fact that in many cases (e.g. MPEG) the standardization strategy behind the codec fixes the format of the bitstreams and the decoding procedure but leaves encoding open. This is e.g. the case for MPEG and is intended to allow embracing recent advances in encoding quality and speed while retaining full compatibility with existing decoders.

Then, the committee discussed about events that the TC might sponsor or contribute to at the upcoming convention (143<sup>rd</sup> in New York, 18Oct-21Oct, 2017). Based on this, the following activities were planned or envisaged for the Coding TC:

- In past, the TC had produced a very successful series of tutorial materials (CD ROM, JAES article, workshop) on “Audio Codecs – What To Listen For” which explained the nature of several categories of coding artifacts and provided example sound excerpts for listener training. Since this effort, a number of new coding tools and technologies have evolved (bandwidth extension, parametric stereo/MPEG Surround, etc). Thus, an update for these new components would be in order. While the actual kick-off of such a project may still take a while, the following ideas were discussed and should be kept for later expansion:
  - Artefacts pertaining to
    - Perceptual Noise Substitution (PNS)
    - High Frequency Reconstruction (Bandwidth extension)  
(roughness, inappropriate temporal shaping, timbre mismatch (too tonal, too noisy))
  - Artefacts pertaining to

- Parametric Stereo & related technology, incl. surround/3D  
(spatial degradations, timbre artifacts)  
Artefacts occurring for applause signals / live recordings  
(temporal shaping, timbre, spatial stage)  
Should such an CD ROM extension/continuation be offered as a USB stick?
- For the workshop on “State of the art in modern parametric (hybrid) audio coding” a repetition for the US audience was considered depending on the feedback from the first workshop.
- Frederik Nagel reported on a workshop on “Speech and Audio Coding for Telecommunication” by the TC on Audio in Telecommunications to be chaired by G. Fuchs. The Chair suggested a joined effort by both TCs.
- Planned for the future: A workshop on “Coding for Virtual Reality (VR).  
Karlheinz Brandenburg noted that there are also AES conferences planned on this topic.

There were no other issues (proposals for awards etc.).

The TC meeting was adjourned at 13:55.

## ANNEX 1 – Agenda

AES TC on Coding of Audio Signals

Salon 15 Paris, 13:00-14:00, Monday May 22, 2017

142<sup>nd</sup> AES Convention

Berlin

- 1) Approval of Agenda
- 2) Review of recent activities for current convention / conference
  - EVS Codec Workshop
  - Richard C. Heyser Memorial Lecture Series
  - Other activities
- 3) Review of / proposals for activities at upcoming conventions, conferences, workshops etc.
  - 143rd AES Convention, New York
- 4) Any Other Business
- 5) Next Meeting
- 6) Closing of the Meeting

## ANNEX 2 – Participants

<b>Name</b>	<b>Company</b>
Jürgen Herre	International Audio Laboratories Erlangen / Fraunhofer IIS
Karlheinz Brandenburg	Fraunhofer IDMT / TU Ilmenau
Gerald Schuller	Fraunhofer IDMT / TU Ilmenau
Per Ssösten	AES Vice President Northern Europe
Frederik Nagel	Fraunhofer IIS
Sascha Dick	Fraunhofer IIS
Krzysztof Blasiak	Dolby
Stansilaw Gorlow	Dolby Sweden
Heiko Purnhagen	Dolby Sweden AB
Sascha Disch	Fraunhofer IIS