

Minutes of the AES Technical Committee on Coding of Audio Signals

The meeting was called to order at the 144th AES Convention, Milano, at 16:00, Wednesday May 23, 2018 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 New York 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 144th convention that were in some sense relevant to this TC:

- P02 - Audio Quality Part 1, Wednesday, May 23, 10:30 - 12:30
- P03 - Audio Quality Part 2, Wednesday, May 23, 14:00 - 15:30
- P10 - Audio Coding, Analysis, and Synthesis, Thursday, May 24, 11:15 - 12:45
- The keynote speech at the opening ceremony was delivered by Prof. Marina Bosi on “How Perceptual Audio Coding has changed our Lives”.

Generally, compared to previous conventions, audio coding seemed more visibly represented again.

This convention’s Heyser Lecture speaker was Prof. Malcolm Omar Hawksford.

The committee discussed about events that the TC might sponsor or contribute to at the upcoming convention (145th in New York, 17Oct-20Oct, 2018). Based on this, the following activities were planned or envisaged for the Coding TC:

- A workshop on “Audio Coding using DNNs” would be a very interesting and timely topic, but still needs more technology examples before it appears mature. It is thus considered as an interesting topic for future conventions.
- Similarly, a workshop on “Spatial Perception relevant to Audio Coding” may be interesting in the future
- Finally, a workshop on “Coding for Virtual Reality (VR)” (first discussed at the 142nd AES convention TC meeting) may be interesting at some point in the future.

Next, the chair report that – in accordance with a Technical Council recommendation – there will be a downsizing of the TC’s membership list after the convention with the aim of having a list of active TC members. Members will be asked to respond to stay on the membership list.

As the main item of activity, there was a discussion on an update of the TC’s CD ROM project.

Background: In the 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 is in order.

An inventory of the existing CD ROM was taken and the following extensions to its content were envisioned:

- Artifacts from Perceptual Noise Substitution (PNS)
- Artifacts from High Frequency Reconstruction (Bandwidth extension) (roughness, inappropriate temporal shaping, timbre mismatch (too tonal, too noisy)
- Artifacts pertaining to Parametric Stereo & related technology, incl. surround/3D (spatial degradations, timbre artifacts)
- Artifacts occurring for applause signals / live recordings (temporal shaping, timbre, spatial stage)

It was also discussed whether it would be meaningful to offer multi-channel artifacts in view of the fact that correct multi-channel reproduction on users’ setups is not guaranteed. Thus, at least a channel-check signal would need to be included. As a convenient alternative, distribution of multi-channel effects as binauralized stereo may be viable. The project will be continued on the TC reflector.

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

The TC meeting was adjourned at 17:18.

ANNEX 1 – Agenda

AES TC on Coding of Audio Signals

Room Brera 1, 16:00-17:00, Wednesday May 23, 2018

144th AES Convention Milano

- 1) Approval of Agenda
- 2) Review of recent activities for current convention / conference
 - Richard C. Heyser Memorial Lecture Series
 - Keynote on Audio Coding by Marina Bosi
 - Other activities
- 3) Review of / proposals for activities at upcoming conventions, conferences, workshops etc.
 - 145th AES Convention, New York
- 4) TC Membership
- 5) Educational CD ROM v2 Project
- 6) Any Other Business
- 7) Next Meeting
- 8) Closing of the Meeting

ANNEX 2 – Participants

Name	Company
Jürgen Herre	International Audio Laboratories Erlangen / Fraunhofer IIS
Sascha Dick	Fraunhofer IIS
Christof Faller	Illusonic
Quingbo Huang	Peking University