

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

Meeting was called to order at the 133rd AES Convention, San Francisco, at 14:00, Sunday October 28, 2012 by Jürgen Herre, co-chair.

The agenda was approved, shown in the Annex-1. The chair welcomed attendees, shown in Annex-2, and thanked them for participating in the TC meeting. Due to storm conditions on the US east coast, the meeting was chaired by co-chair Jürgen Herre, substituting for Schuyler Quackenbush.

The minutes of the last TC meeting at Budapest had been posted on the TC email reflector. Since there were no comments, the Chair took the minutes as approved and uploaded them to the TC web site.

The Chair noted the activities at the 133rd convention that were related to this TC and / or coding-related events in general:

- N1: Error-Tolerant Audio Coding
- W2 Spatial Audio Evaluation (including some issues from MPEG-H)
- W4 : "How do objects sound?" (included MPEG formats for object coding)
- W6: Today's Audio Delivery Formats?
- B9: What happens to you production played on various media (some coding related issues, like tandem coding, headroom etc.)
- SP3: New Multichannel Formats for 3-D Cinema and Home Theater (this was originally proposed at last Coding TC meeting, but developed differently during the convention planning process into an event for Cinema only, part of the "Sound for Pictures" convention track)

This convention's Heyser Lecture speaker was James D. "JJ" Johnston, a former co-chair of the Coding TC and recognized coding (and signal processing) expert.

The Chair and attendees brainstormed about workshop and tutorial sessions that the TC might sponsor at the upcoming convention (134th in Rome, 4-7 May, 2013). After some discussion, the following ideas were brought forward:

- As a carry-over from the previous TC meeting, the idea of a workshop on "Using Dynamic Adaptive Streaming (DASH) with MPEG Audio Codecs" was taken up again, to illustrate that adapting the bitrate is possible, provide some guidance on how to do it and give demonstrations of this functionality. The chair will contact Max Neuendorf as a driver of this effort, which may be either a workshop or a tutorial.
- Since the original idea of a 3D audio coding workshop had evolved into a different format at this convention (SP3), Jürgen Herre or Christof Faller (tbd) will organize a technology workshop on "Rate-efficient Coding of 3D Audio":

- Use of existing MPEG technology for 3D Audio Coding (MPEG Surround, AAC, etc.)
- New MPEG technology: MPEG-H
- Directional Audio Coding (DirAC)
- 3D Audio for very low bitrates
- Auro 3D Coding, DTS, ...

Finally, possible new TC projects were discussed. Especially, the idea of an AES International Conference was entertained, e.g. on “Coding for wireless broadcast” (a follow-on to 43rd conference in Korea). Available slots could be in 2015/16. The preparation process involves several iterations on a conference proposal plan, and the final plan should be available for approval at least one year before the conference date. As an aid, there is a “how to” package available from AES (web site or Diemer de Vries). TC members are encouraged to think about the idea. Schuyler Quackenbush to be contacted re drivers.

As a possible TC project activity, Gerald Schuller suggested to support education on audio signal processing on the Arduino platform (a little module connected to a PC per USB, open-source single-board microcontroller). The task would be to make a kit/library available for audio signal processing. Gerald to post some write-up on the TC reflector.

Under the “other business” section, the chair reminded the attendants to think of nominations for AES awards, such as the fellowship. The TC meeting was adjourned at 15:00.

## ANNEX 1 – Agenda

AES TC on Coding of Audio Signals

Room 124, Moscone Center, 14:00-15:00, Sunday October 28, 2012

133<sup>rd</sup> AES Convention

San Francisco

- 1) Approval of Agenda
- 2) Opening Remarks of Chairman
- 3) Review of recent activities for current convention / conference
- 4) Richard C. Heyser Memorial Lecture Series – Jim Johnston
- 5) Review of / proposals for activities at upcoming conventions, conferences, workshops etc.
- 6) Any Other Business
- 7) Next Meeting
- 8) Closing of the Meeting

## ANNEX 2 – Participants

<b>Name</b>	<b>Company</b>
Juergen Herre	International Audio Laboratories Erlangen / Fraunhofer IIS
Thomas Sporer	Fraunhofer IDMT
Karlheinz Brandenburg	Fraunhofer IDMT
Clemens Par	Swissauddec
Christof Faller	Illusonic
Heiko Purnhagen	Dolby Laboratories Germany
Gerald Schuller	TU Ilmenau & Fraunhofer IDMT
Makoto Hirvi	Miselu