

AES Technical Committee on Acoustics and Sound Reinforcement
Minutes from Technical Committee meeting– AES Show Spring 2021
Tuesday, 1 June 2021, 10 – 11am (EDT), MS Teams

Attendance:

Adam Hill (chair) – AH, Kurt Graffy (chair) – KG, Elena Shabalina (vice-chair) – ES, Andy Wardle – AW, Bruce Olson – BO, Ben Kok – BK, Neil Shaw – NS, Steve Hutt – SH, Tom Bland – TB, Michael Lawrence – ML, David W. Robb – DW, Jon Burton – JB, Arica Rust – AR, Bob McCarthy – BM, Boris Rehders – BR, David Andrews – DA, Eric Ferguson – EF, Javier Frutos – JF, Marcel Kok – MK, Nathan Lively – NL, Olushola Aremu – OA, Peter Mapp – PM, Ralph Haddad – RH, Tim Kuschel – TK, Scott Sugden – SS, Tobias Goldmann – TG, Ugis Vilcans - UG

Apologies:

Eddy Brixen – EB, John Woodgate – JW, Etienne Corteel – EC

1. Minutes and actions from AES 149 Show Fall 2020
 - AH reviewed minutes from the previous meeting, highlighting raised actions. All actions were either completed or appear on the current meeting agenda.
2. AES 150 Spring Show 2021 – sessions supported by TC-ASR
 - AH highlighted the four sessions that the TC contributed to the AES convention, including Diana Deutsch's Heyser Lecture.
 - AH thanked the session contributors for their hard work in developing and delivering these sessions.
3. AES 151 Las Vegas (in person 11 – 13 October, online 20 – 23 October)
 - ML and BM noted that Henry Cohen has already reached out to them to organize/be involved with panel sessions for the next convention, where diversity of the panels is considered a priority.
 - BM noted that as the convention is aiming to be hybrid, there is a danger that few will attend in person (including panel members), thus limiting diversity, although having the sessions online will vastly improve accessibility. This uncertainty is a concern for those who are putting together sessions. A quick polling of the TC members indicated that roughly 1/3 plan to travel to the conference in person.
 - MK offered to put together a panel session on sound level monitoring at music festivals (he plans to attend the conference in person, if possible).

- ES suggested a session on sound propagation from Keith Wilson. NS pointed out that SoundPLAN software is critical in this area. ES offered to reach out to SoundPLAN to see if they would be interested in contributing to a session.
- AR noted that there appears to be a number of individuals/companies working on outdoor sound propagation. Maybe a combined session on the topic would be beneficial? ES agreed on this point and AH noted that this had been previously considered for AES Vienna, but was put on hold due to the pandemic. AH noted that this may be easier to accomplish for the next AES Europe convention. ES noted that this should ideally wait until after Internoise 2022 (where AH + ES are co-chairs for the main topic area of Signal Processing, Reproduction and Diagnostics).
- NS suggested a session from George Augspurger (which was also suggested during the previous TC meeting) with flexibility regarding the specific topic.
- KG noted that most of the above sessions have a strong focus on sound reinforcement, where the TC needs to remember to maintain an equal focus on acoustics. BM agreed with this, noting the strong ties between the two disciplines.
- BR pointed out that the issue of upward masking due to low-frequency content plays a significant role in speech intelligibility. Perhaps a session focusing on this would be appropriate? KG agreed that certain members of the TC should put their thoughts together on this.
- AR suggested considering a set of sessions or even a full conference focusing on audio control (focusing on the various approaches to AoIP).
- TB observed that many of the suggested sessions have an emphasis on music-based sound reinforcement, while a significant proportion of the industry works on permanent installations. Perhaps a session on BIM workflow would be of interest? TK offered to contribute to work towards this.
- AH noted that EC offered to put together one or two sessions from the work L-Acoustics is doing, as necessary.
- **Action (ES + AH):** Include considerations for combined session on sound propagation in parallel with planning for Internoise 2022.
- **Action (ES):** Contact Keith Wilson to see if he's interested in putting a session together for the convention in October.
- **Action (NS):** Approach George Augspurger to see if he's interested in delivering a session for the convention in October.
- **Action (MK):** Consider putting together a panel session on sound level monitoring at festivals for the October convention.

- **Action (EC + SS):** Consider proposing one session on relevant work for the October convention.
- **Action (KG + BR):** Consider forming a panel to deliver a session at the October convention on upward masking due to low-frequency content and how this impacts speech intelligibility.
- **Action (AR + TB + TK):** Put together some thoughts on possible/useful sessions focusing on audio control, BIM workflow and other AV-related subjects.

4. Sound Reinforcement Conference

- ES gave an overview of the planning to date for the next Sound Reinforcement Conference. The conference is likely to take place in Germany in 2023. She has been in touch with AES HQ, where initial guidance has been given.
- MK, JF, TG, AH, AW, EC and BM volunteered to contribute to the conference (at this meeting or from the previous TC meeting) in whatever way was most useful. ES noted that EB was happy to act as a mentor, having organized the previous conference.
- ES noted that there is a need for someone to take on the financial planning for the conference. No volunteers came forward, but ES asked everyone present to consider if they or someone else they knew could take on this role.
- Members asked whether the conference would be hybrid (in person and online). This was undecided at present. BM reiterated the challenges with a hybrid conference.
- ES suggested that we reach out to the ASA to see if they are interested in getting involved. This would support the previous point by KG emphasizing the need to cover the relevant acoustics alongside sound reinforcement considerations. NS asked whether ES had been in touch with the architectural acoustics committee within the ASA? ES said that she had been in touch with the computational acoustics group, but would be happy to reach out to others within the ASA.
- ES observed that at recent AES conventions there have been noticeably fewer sessions/papers on fundamentals of science/technology, where instead presentations focus on applications of technology. She hopes to include sessions focusing on fundamentals for this conference to ensure attendees are properly educated on the relevant topics.
- KG reminded the TC that many current members have previously delivered excellent sessions covering fundamentals of acoustics. Perhaps we should consider reviving some of these sessions. BK, who has previously delivered many such sessions, said he was happy to do this.

- JF asked whether the conference could include a session on SR history? AH noted that one of the most enjoyable sessions from the previous AES convention was a round table discussion on “war stories” from engineers.
- SH made the point that the AES was currently working to update/improve conference organization procedures.
- **Action (ES + identified volunteers):** Continue to progress conference planning considering the above points. ES to consider assigning specific roles to volunteers to focus organization efforts.
- **Action (all TC members):** Consider who would be appropriate (and willing) to join the conference organizing committee to handle finances.

5. New topics

- KG said he was happy to see such good attendance at this TC meeting, with good representation from across the globe. Certainly one of the benefits of hosting these meetings online.
- KG stressed that some of our efforts need to focus on getting back to basics. The purpose of the TC is to support the education of AES members on the fundamentals of acoustics and sound reinforcement (building blocks, history, etc.) as well as highlight cutting-edge work. We can’t forget about small room acoustics and indoor audio (the TC has shifted focus to large-scale SR recently). The TC previously set up a subject page on the AES site pointing to a good portfolio of papers. Maybe this could be updated?
- TB said he would like to see more 101-style sessions focusing on fundamentals.
- NS said he remembers when there were quite a few sessions on acoustic fundamentals (many by TC members still active within the group). KG echoed the idea of reviving past sessions, as mentioned earlier in the meeting. BK again offered to contribute here.
- **Action (KG):** Come up with a list of potential topics/sessions. Liaise with BK to see if he’d like to bring back a previous session for the October convention.

6. Working groups, standards work, or other TC-related activities

- MK proposed to create a small working group as an offshoot from the working group that developed the recent AES Technical Document. He listed a number of potential research topics that are necessary to provide a better approach sound level monitoring and management at live events, including development of improved objective metrics.

- TG agreed with MK that such work was necessary and detailed a related proposal which focuses on developing an objective method to quantify/rate sound system design, where noise exposure could be included within the metric. BR agreed with the points from TG and MK and indicated that such metrics would be of interest within the industry and asked whether such work should also include speech intelligibility.
- BR also raised the point of sound system “shoot outs” or system normalization. Could this be standardized? SS said that this was a very important topic that required careful consideration. Normalization of sound system behaviour during such tests is critical.
- JF raised the point that immersive audio seems to have no metrics relating to sound reinforcement/reproduction. Would these be useful to explore? NS noted that SMPTE have looked into immersive audio and may have some useful metrics to consider. Possibly this would be a useful link to make to the TC?
- TB reemphasized his earlier point (from the previous TC meeting and forum posts) on the need for loudspeaker data standardization. Many members present agreed that this area needs attention.
- AH invited BO to talk through possibilities regarding beginning work with AES Standards in relation to the recent TC-ASR Technical Document on sound exposure and noise pollution due to outdoor events. BO said that we can continue to develop ideas and could relate/tie in the work to what some TC members are doing with the WHO. BO emphasized that volunteers from the TC are needed to drive this effort.
- **Action (MK + TG + BR):** Identify TC members to contribute to the new working group on sound reinforcement metrics research. Work together to develop clear list of research objectives and approximate timeline and intended outcomes.
- **Action (TB):** Consider reaching out to AES Standards regarding their ongoing work within SC-04-03A (Working Group on loudspeaker modeling and measurement) in relation to loudspeaker data reporting.
- **Action (SS + BR):** Identify TC members to contribute to a working group on sound system shoot outs (a.k.a. sound system standardization). Work together to develop clear list of research objectives and approximate timeline and intended outcomes.
- **Action (AH):** Identify TC members to contribute to small working group to begin development of ideas presented in TC-ASR technical document into AES Standards. Liaise with BO as necessary.

7. TC-ASR membership/leadership

- AH welcomed the new TC members to the group and noted that there were no leadership changes to report.
- AH echoed KG's earlier point that it's wonderful to see so many active discussions in the meeting today, quite different from the very quiet meetings from a few years ago.

8. Any other business

- No other business was raised. AH thanked everyone for attending.
- *Post meeting note:* JW reached out to alert TC members of an opportunity to contribute to IEC TC100:

AES has an A-liaison with IEC TC100, so can appoint experts without involving ANSI or any other National Committee. We managed to get a vote in IEC TC100 to adopt as a new project an updated version of BS 6259 as an IEC publication in the 60268 series, equivalent to a 'guide' (but IEC uses 'Guide' for a different sort of document, which is not a guide at all!). Apart from GB, Italy, Japan, Korea, Mexico, Netherlands, Russia (!) and US voted in favour, but have not appointed any members to the drafting team. Germany voted against but only because an expert disagreed with some wording in the draft, so that's not recorded as a valid vote. They should have appointed an expert to get the wording changed (it would be), but they didn't.

Back in the 1970s, it was an intention of producing this 'care and feeding' guide to complement the rest of IEC 60268, but for various reasons the project was long delayed in development in BSI. Now BS 6259 definitely wants to be brought up to date, so this is an opportunity to bring it to the international stage.

As a parallel, we are getting reports of 'backsliding' on technical and installation excellence of voice alarm systems and there is an industry initiative (at a very early stage) to produce a 'care and feeding' document for those, to try to stop the slide.

- **Action (all TC members):** Consider the opportunity offered by JW above. If interested, please reach out directly to JW (jmw@woodjohn.uk).

Minutes compiled by AH, 10 June 2021.