

Minutes of the TC SP Meeting, 151st Convention, Oct. 15, 2021, 10AM ET

Called to order by Christoph M. Musialik on Oct. 15, 2021, 10:00AM ET via Zoom.

Attendees: Christoph M. Musialik (Chair), Jayant Datta (V-Chair), Vicky Melchior, Steve Hutt, Duane Wise, J. Keith McElveen, Gerald Schüller, Chris Goosman, Covey Watthall, Marc Erickson, Louis Martinez

Introduction by Christoph:

It is our 4th on-line TC_SP meeting. Hoping everybody stay healthy und we can meet in person again soon.

Proposed Agenda:

1. Contributions related to TC_SP on the AES Fall 2021 Convention.
Gerald Schuller: [Deep Learning for Audio Signal Processing, with Python and Pytorch Examples](#)), Jamie Angus-Whiteoak, John Stuart: [A Deep Dive into DAW Digits: Can Floating Point Save You?](#)
2. How can TC_SP contribute to the future AES events?
3. Is still any interest in tutorials/workshops discussing signal processing basics?
4. How can we (TC_SP) react to new trends in audio? (Should we? Or concentrate on classical SP topics?)
5. Any proposals/commitments to organize or prepare workshops/tutorials/papers.
6. Others

has been accepted. No additional points have been declared.

Discussion Summary:

1. A lot of discussion initiated by the topic: floating-point vs. fixed-point arithmetic (Christoph, Duane, Vicky). Today's audio programming world is a floating-point based world. In some products we have been confronted with wrong implementations of dithering and noise shaping, especially when programming in C++ on Windows or OS. A proper implementation has to be done with fixed-point arithmetic, but this is often a kind of back-to-the roots approach for young audio programmers.
Duane animated to take a part in a future tutorial or workshop on this topic.
2. Jayant asked a question addressed mainly to Steve: What to do, when preparing a paper on generic signal processing topic? Earlier we often had two DSP sessions dedicated to DSP topics. For some years we have none.
3. Christoph drew attention to analog signal processing that is still important part of each audio recording/processing/distribution channel. Today it is much easier to find

on the Internet a particular DSP algorithm than a project related to a high-quality microphone stage. Therefore rescue the knowledge of the analog experts, they are less and less. Louis Martinez has also stressed the necessity of retrieval of historic audio topics. Vicky mentioned the necessity of a series of tutorials discussing audio hardware design. Even if all these “historical” topics are not that attractive for convention organizers, an good alternative would be a series of webinars, not necessarily related to particular AES conventions.

4. Steve mentioned an educational track Audio Product Development where experts from the industry discuss interesting practical solutions used in their audio products. It was included in the earlier conventions as Audio Engineering Reports (or similar tittle?), but it is no more. In connection, Vicky mentioned necessity of topics related to the daily practice in studios like the influence of using (bad) sampling rate conversion. It could attract broader range of audio community, not only technology-oriented people.
5. Duane mentioned to approach Rainer Weiss, a famous physicist researching gravitation waves, Nobel Laureate. He is an extraordinary expert (also) in low-noise amplifiers, something which can be very valuable for audio community.

Meeting ended around 10:55 [ET]