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AES Audio Engineering Society - Pacific Northwest Section

Around the Puget Sound, Seattle, Washington, U.S.A.

January Meeting Notice Auditory Mechanisms for Spatial Hearing

**Presented by
James D. (JJ) Johnston - Chief Scientist, Immersion
Networks
and the
AES PNW Section**

**ZOOM MEETING 6:00PM PST (UTC -8)
Thursday, 28 January 2021**

JJ's previous talk on the basics of hearing ([April 2019](#)) was from the point of view of a single ear.

Since it's been a while, JJ will summarize the content of that talk and then discuss the features of hearing that provide binaural cues, such as

- time (phase) arrival,
- frequency shaping,
- dispersion (acoustic, both head related and transmission related),
- how they interact with directional, distance, and external/internal sensation.

This talk will not be a complete discussion, as there isn't enough time, but it will touch on the major points relating to sensation and spatialization. A variety of hearing and acoustics matters will be presented in a high-level fashion.

About our Presenter

JJ received the BSEE and MSEE degrees from Carnegie-Mellon University, Pittsburgh, PA in 1975 and 1976 respectively.

JJ retired in 2002 after working for 26 years at AT&T Bell Labs and its successor AT&T Labs Research. He was one of the first investigators in the field of perceptual audio coding, one of the inventors and standardizers of MPEG 1/2 audio Layer 3 and MPEG-2 AAC, as well as the AT&T Bell Labs or AT&T Labs-Research PXM (perceptual transform coding) and PAC (perceptual audio coding) and the ASPEC algorithm that provided the best audio quality in the MPEG-1 audio tests.

Most recently he has been working in the area of auditory perception of soundfields, electronic soundfield correction, ways to capture soundfield cues and represent them, and ways to expand the limited sense of realism available in standard audio playback for both captured and synthetic performances. He was previously employed by Microsoft and then by Neural Audio and its successors. His current status is Chief Scientist of Immersion Networks. Mr. Johnston is an IEEE Fellow, an AES Fellow, a NJ Inventor of the Year, an AT&T Technical Medalist and Standards Awardee, and a co-recipient of the IEEE Donald Fink Paper Award. Mr. Johnston has presented many times for the PNW Section. You can see the depth and breadth of the topics he's presented for our section at:

<https://www.aes.org/sections/pnw/jj.htm>. In 2006, he received the James L. Flanagan Signal Processing Award from the IEEE Signal Processing Society, and presented the 2012 Heyser Lecture at the AES 133rd Convention: *Audio, Radio, Acoustics and Signal Processing: the Way Forward*.

THIS EVENT IS FREE, OPEN TO ALL, AND AES MEMBERSHIP IS NOT REQUIRED

PNW AES Zoom Meetings

We started holding our meetings via Zoom beginning with the April 2020 meeting. Zoom has dramatically increased our reach, well beyond our Section's geographic area. Since doing this, we've had attendees from Canada, and as far away as Indonesia, and Australia. Zoom gives the ability to record our meetings, and those recordings will be posted in our past meetings [Archive](#).

[Register to Attend using Eventbrite](#)

When you register and when you enter the Zoom meeting, please use your real first and last names so we can get to know each other. You do NOT need to create an Eventbrite account to register.

Eventbrite will give you the Zoom URL as soon as you register. Be sure to copy it down!

Tea* Time Topics every Saturday, 3:30pm (Pacific) to 6:30pm A Virtual Zoom meeting

Former Chair Dan Mortensen started the custom of people introducing themselves at our meetings. The breadth and depth of your skills and interests led to Dan wanting a more in-depth kind of presentation but without the preparation needed for a full-on meeting.



The idea behind these events is that "Audio" is a big subject with many specialties, and at our meetings we all focus together on one subject. When we do our self-introductions as part of our meetings, it's ALWAYS fascinating to hear about the kinds of things our audience members do to manifest their love of audio.

Dan thought it would be fun to create an event where the meeting IS the audience members' descriptions of what you do, preferably with pictures/recordings/movies or whatever will help you convey to us what you're up to/interested in/want to learn more about.

Format

The TTT meetings take place each Saturday afternoon via Zoom, and will continue for the foreseeable future, if not beyond. If things open up and people start getting busy again, we'll adjust the schedule. We've been doing this for several months now, and the topics have been varied and interesting. Here is a [summary \(click here\)](#) of the topics we've explored since we began in May.

Registration to attend Tea* Time Topics

You will need to register by contacting Dan via [email](#). When you register, please give your real first and last name.

Note that these Tea* Time Topics events are in addition to our normal 10 times/year (not in July or August) Section meetings and not a replacement for them.

Footnote: *This is Dan's normal time for tea. You may have whatever refreshments you wish, but if you get unruly/belligerent you'll be bounced without apology.

Greg Dixon

AES PNW 2020-2021 Section Chair

n.b. *The material presented at our meetings is the opinion of the presenter and not necessarily that of the Society. You are encouraged to conduct your own research and to form your own opinions before adopting the presented material as Truth.*

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