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AES Audio Engineering Society - Pacific Northwest Section

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

NOTE: anyone can attend this meeting regardless of their status as an AES member.

AES MEMBERSHIP IS NOT REQUIRED.

To Window or Not To Window aye, there's the rub!

Presented By

James J (JJ Johnston) - AES and IEEE Fellow

Bob Smith - AES PNW Section

and

The Pacific Northwest Section of the AES

Tuesday, January 30th, 2018, 7:30pm

Digipen Institute of Technology, Redmond Washington

[Directions to Digipen Institute of Technology](#)

Our January meeting will deal with the matter of windowing in FFT analysis.

Mr. Johnston will explain why windowing exists in FFT analysis, and then show the properties of a few windows, as well as mention when a window might not be the right tool. The talk will be primarily powerpoint, with rather a lot of graphs showing what happens when you do and don't window, why it's usually a good idea, and when it's actually not such a good idea.

Bob Smith will add clarity by discussing the practical effects of window choices on audio measurements. He will demonstrate these concepts via several live amplifier measurements.

Our Presenters

James D. (JJ) Johnston received the BSEE and MSEE degrees from Carnegie-Mellon University, Pittsburgh, PA in 1975 and 1976 respectively. JJ temporarily retired in 2002 but worked 26 years for 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 most recently employed by DTS Audio and his current status is retired. 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, most recently on the issues surrounding "Dynamic Range." 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.

Bob Smith has a BSEE from the University of Washington and has worked in the Biomedical industry for over 45 years. The last 20+ years he has spent developing acoustic research and audio engineering disciplines for Stryker / Physio Control (formerly Medtronic / Physio Control) to improve speech intelligibility for medical device voice prompting and voice recording systems in noisy environments. He is responsible for voice prompting in 30+ languages. The department now handles acoustic measurements of components such as drivers, microphone capsules and system measurements including Thiele-Small parameters, polar plots, waterfalls, frequency response, impulse response, several speech intelligibility methods, etc. When he's not playing acoustic/audio monkey for his corporate master, he runs an acoustic lab, SoundSmith Labs. From time to time, he can also be found recording local musical talents. Currently he is comparing several hardware and software acoustic / audio measurement systems to assess how much they vary and to the degree they converge on similar results. noise assessments and their effect on speech intelligibility.

Dan Mortensen

AES PNW 2017-2018 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.*

Our meetings are open to anyone interested in Audio. AES membership is NOT required for you to attend our meetings.

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