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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.**

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**Spatial Audio and its Applications  
Presented by  
Dr. Ivan Tashev  
Microsoft Research  
and  
The Pacific Northwest Section of the AES  
Wednesday, May 11, 2016, 7:30pm  
Microsoft Research, Building 99**

[Directions to Microsoft Research](#)

The realism in rendering audio improved substantially with the introduction of stereo (2.0) and surround sound (5.1 and 7.1). Still, until the recently announced Dolby Atmos (7.4.1), the audio world in the consumer space remained flat, because all of the loudspeakers were placed in a single plane.

The need for more realistic audio is driven by the gaming industry and by recently announced devices for augmented and virtual reality. In most of these cases devices come in the form of head mounted displays. An integral part of these devices are several audio subsystems: spatial audio rendering, capturing the user's voice and capturing environmental audio.

In this talk Dr. Tashev will discuss the technologies behind capturing, representing, and rendering of 3D audio: spherical microphone arrays, intelligent headsets, head-related-transfer-functions and their personalization. During the break some of these technologies will be demonstrated.

Please join us on Wednesday, May 11th for an enlightening and engaging presentation. Bring your questions!

## **Our Presenter:**

**Dr. Ivan Tashev**

Dr. Ivan Tashev received his Master's degree in Electronic Engineering (1984) and PhD in Computer Science (1990) from the Technical University of Sofia, Bulgaria, and he was an Assistant Professor at the same university. He joined Microsoft in 1998. Currently Dr. Tashev is a Partner Architect and leads the Audio and Acoustics Research Group at Microsoft Research Labs in Redmond, WA. He has published four books, more than 70 papers, and holds 30 U.S. patents. Dr. Tashev created the audio processing technologies incorporated in Windows, Microsoft Auto Platform, and the Round Table device. He served as the audio architect for Kinect, Xbox, and Microsoft HoloLens.

Dr. Ivan Tashev is also Affiliate Professor in the Department of Electrical Engineering of the University of Washington in Seattle, WA.

## Elections

Election time is here again. Unlike our national elections, ours is completely sedate by comparison; no robocalls, no candidates stumping the election trail, kissing babies and who knows what else... We announce in May, we elect in June.

This is YOUR opportunity to give back to your Section. There are five committee seats that elect this year, and several vacancies. Of course vacancy or not, you can toss your hat into the ring. In addition, the Section Officers positions also re-elect at this time, however we ask that candidates for the Chair and ViceChair positions have previously served on the Section Committee.

The officers and section committee produce the meetings that you attend. Meeting topics come from the officer/committee group, as well as from you, our Audience. Sometimes a meeting topic just falls into our laps (like this month's meeting). Sometimes we have to rustle the bushes to see what we can make fall out. It's fun, and it keeps us on our toes. We meet via email rather than trying to coordinate everyone's schedule so that we can congregate somewhere.

If you are not a member (or associate), you may still run, however you must become a member after winning the position. You may nominate yourself, now or at the June Election, or you can ask someone to nominate you.

[More Info](#)

## Chris Deckard

*AES PNW 2015-2016 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.**

2015-2016 Officers

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Christopher Deckard	Steve Turnidge	Gary Louie	Greg Mauser	Aurika Hays,	Refer to the Officers and Committee contact list for contact information.
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