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**\*\*\*FOR IMMEDIATE RELEASE\*\*\***

Press Release

**Genelec monitors power research at**

**Huddersfield’s Applied Psychoacoustics Lab**

**Huddersfield, UK, February 2024…** The [Applied Psychoacoustics Lab](https://apl-hud.com/) (APL) at the UK’s [University of Huddersfield](https://www.hud.ac.uk/) is an experimental hub created to advance our knowledge of the mechanism of human auditory experience, and provides perceptually-motivated solutions to audio engineering problems. Opened in 2013, its critical listening room has always relied on Genelec, and a recent upgrade to Genelec’s ‘The Ones’ Smart Active Monitors is supporting further advances in research.

“Recently we've been focusing on virtual acoustics for extended reality applications,” explains Prof Hyunkook Lee, Founder/Director of the APL. “We've worked on a project that developed a six degrees of freedom audio augmented reality processing engine, which led us to develop binaural renderers, such as Virtuoso, which we just released.

“We're also conducting lots of experiments using VR headsets and also display systems to look into the interaction between audio cues and visual cues,” he continues. “That's highly relevant for creating immersive experiences. It's not just audio that gives you an immersive audio experience – because we see things in real life. We're investigating how we perceive the immersive experience, how we can enhance it while we're watching films or listening to music, and what kind of perceptual parameters actually provide this kind of experience.”

For the last decade, 24 Genelec [8040](https://www.genelec.com/previous-models/8040a) monitors combined with a pair of [7070](https://www.genelec.com/previous-models/7070a) subwoofers have been used to reproduce audio in APL’s critical listening room. However, a recent upgrade has seen 15 of the 8040s replaced with [8341](https://www.genelec.com/8341a) three-way coaxial monitors from The Ones series.

“There were two reasons basically,” recalls Lee, discussing the decision for the upgrade. “[The Ones](https://www.genelec.com/theones) provide excellent tonal consistency wherever you sit in the room, which is very important when you have a lot of people in this space. When we hosted a recent AES International Conference on Spatial and Immersive Audio, we had 21 people in this room. And wherever they sat, they had an excellent experience. The tonal balance was very consistent across the room, which was very important for this kind of demonstration situation.

“The second reason was for our research,” he continues. “We needed coaxial monitors because when you do localisation tests, the acoustic centre position is always important. With the 8040s, you have to take the average between the tweeter and woofer. But now with The Ones series, we know exactly where the acoustic centre is.”

The new setup allows APL to create a Dolby Atmos 9.1.6 space, while the remaining 8040s ensure that this can be expanded to cover higher channel count formats such as NHK’s 22.2 standard. In the expanded version, nine of the 8040s are deployed in the floor, height and rear centre positions.

A further advantage that APL has found from upgrading is the simplicity of room switching made possible with [GLM software](https://www.genelec.com/glm). “We can tune the whole room with the 9.1.6 system in less than five minutes and that was a big factor,” says Lee. “GLM makes a huge difference, especially with immersive audio. Of course, you get a very significant difference with stereo as well. But with a 9.1.6 system with so many monitors working together, the fact that we can actually tune the entire system to the room is a great advantage.”

With the new system in place, APL is continuing its efforts to help improve our understanding of immersive audio environments. “Recently, we've been focusing on binaural audio for virtual monitoring and extended reality applications,” explains Lee. “And my current research focuses on what kind of roles audio plays in providing an immersive experience. And for that, it's all about understanding what content producers really think about immersive audio, and what kind of experience users expect from these immersive systems. We need to understand each other and try to narrow the gap and work together in a collaborative environment. Composers, producers, engineers, researchers and developers all need to get together to discuss what really makes spatial audio truly immersive.”

For more information please visit [www.genelec.com](http://www.genelec.com)

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***About Genelec***

*Since the founding of Genelec in 1978, professional audio monitoring has been at the core of the business. An unrivalled commitment to research and development has resulted in a number of industry firsts and established Genelec as the industry leader in active monitors. 45 years later Genelec monitoring products remain true to the original philosophy, offering reliability, neutral sound reproduction regardless of size, as well as the ability to adapt to the acoustic conditions of the listening environment. Genelec customers receive paramount support in the field, from acoustical advice and calibration services to technical service and long product life span. Buying a Genelec product is a secure long-term investment in outstanding and reliable audio monitoring.*

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