**PRESS RELEASE**

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**FOR IMMEDIATE RELEASE**

**Genelec monitors power research at Huddersfield’s Applied Psychoacoustics Lab**

NATICK, MA, February 13, 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 localization tests, the acoustic center 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 center 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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Photo file 1: Huddersfield\_APL\_PR\_Image\_1.JPG

Photo caption 1: The critical listening room of the Applied Psychoacoustics Lab (APL), at the UK’s University of Huddersfield

Photo file 2: Huddersfield\_APL\_PR\_Image\_2.JPG

Photo caption 2: Professor Hyunkook Lee, Founder/Director of the APL

Photo file 3: Huddersfield\_APL\_PR\_Image\_3.JPG

Photo caption 3: The APL’s newly upgraded critical listening room now features fifteen 8341 coaxial three-way monitors

Photo file 4: Huddersfield\_APL\_PR\_Image\_4.JPG

Photo caption 4: The consistent tonal balance of the APL’s monitoring system delivered an excellent listening experience to guests at the recent AES International Conference on Spatial and Immersive Audio

PDF file: Huddersfield\_APL\_Case\_Study\_FINAL.PDF

PDF caption: Genelec Huddersfield APL case study

Genelec, the pioneer in Active Monitoring technology, is celebrating 45 years of designing and manufacturing active loudspeakers for true and accurate sound reproduction. Genelec is credited with promoting the concept of active transducer technology. Since its inception in 1978, Genelec has concentrated its efforts and resources into creating active monitors with unparalleled sonic integrity. The result is an active speaker system that has earned global acclaim for its accurate imaging, extremely high acoustic output from small enclosures, true high-fidelity with low distortion, and deep, rich bass.

Genelec is also continuing with its 18th year of Smart Active Monitoring™ technology, which allows studio monitors to be networked, configured and calibrated for the user’s specific acoustic environment. Each Smart Active Monitor or subwoofer is equipped with advanced internal DSP circuitry, which tightly integrates with the GLM (Genelec Loudspeaker Manager) software application, running on Mac or PC. GLM’s reference microphone kit allows the user’s acoustic environment to be analyzed, after which GLM’s AutoCal feature optimizes each Smart Active Monitor for level, distance delay, subwoofer crossover phase and room response equalization, with the option of further fine tuning by the user. By minimizing the room’s influence on the sound, Smart Active Monitors deliver an unrivalled reference, with excellent translation between rooms.

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*—For more information on the complete range of Genelec Active Monitoring Systems, contact: Genelec Inc., 7 Tech Circle, Natick, MA 01760. Tel: (508) 652-0900;*

*Web:* [*http://www.genelec.com/*](http://www.genelec.com/)*.*