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EPSOM & EWELL TIMES

Almost any listening environment on Earth coming to Surrey

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AURORA³
Anechoic and Universal Research Observation Rooms for Audio, Acoustics, and AI

A new national audio hub featuring world-first acoustic facilities is being built at the University of Surrey, thanks to £2.2 million in funding from the Engineering and Physical Sciences Research Council (EPSRC). The facilities will allow researchers to simulate almost any listening environment on Earth, from a quiet living room or modern office to a vast concert hall, cathedral or bustling city street.

At the heart of AURORA³ (Anechoic and Universal Research Observation Rooms for Audio, Acoustics & AI) will be two world-class audio environments: a state-of-the-art anechoic chamber with a spherical loudspeaker array and a first-of-its-kind variable acoustics room capable of adjusting both reverberation time and physical volume at the push of a button. AURORA³ will be open to researchers from both academia and industry across the UK and globally, as well as to Surrey staff and students.

Professor Enzo De Sena, Director of the Institute of Sound Recording at the University of Surrey, and Fellow of the Surrey Institute for People-Centred AI, said:

“AURORA³ will create a national hub for excellence in sound and AI, allowing researchers to generate reproducible data, test innovations in controlled and lifelike environments, and shape technologies that benefit society.”

The initiative aims to unite the Audio, Acoustics and AI (A³) research community and fuel breakthroughs in sound technology by enabling more accurate modelling of the physical and perceptual phenomena involved in real-world hearing. AURORA³ will pave the way for voice assistants and remote communications that are more robust to noise and reverberation, more immersive Virtual and Augmented Reality experiences for entertainment and virtual prototyping, and smarter hearing aid devices that better understand and adapt to the acoustic scene.

AURORA³ will be hosted at Surrey’s Institute of Sound Recording – part of the School of Arts, Humanities and Creative Industries – and co-led with the University’s Centre for Vision, Speech and Signal Processing (CVSSP). The facilities will also work in collaboration with the Surrey Institute for People-Centred AI, the CoSTAR National Lab, and is backed by a consortium of 18 partners and 12 key users, including the BBC, Meta, KEF, Imperial College London, the University of Cambridge, and non-profits such as the Royal National Institute for Deaf People and the Institute of Acoustics.

Professor Enzo De Sena continued:

“Combined with the UK’s deep AI talent pool and rapidly expanding computing capacity, AURORA³ provides the missing facility for audio data capture, placing the UK at the centre of global audio and acoustics research.”

Image: Professor Enzo and the AURORA logo: credit Surrey University