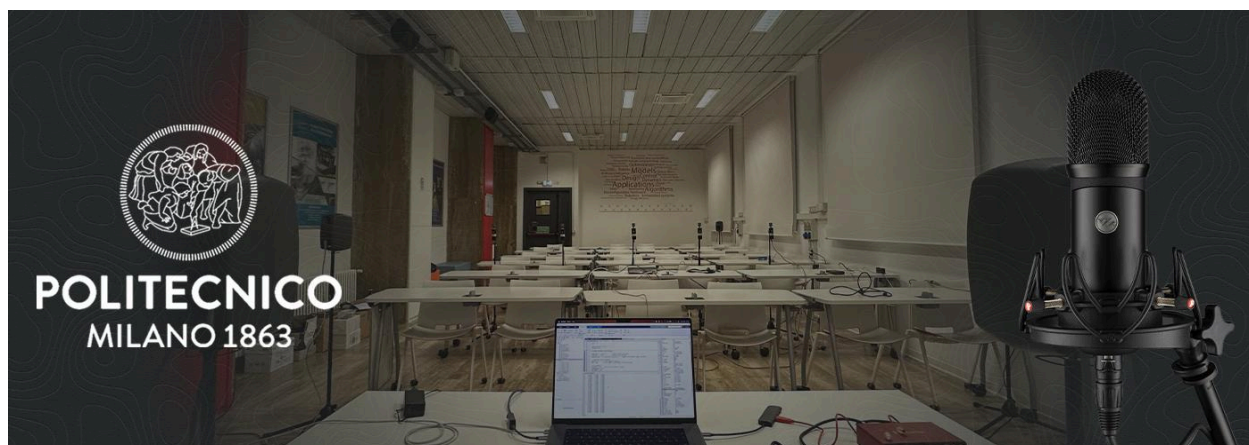




Contact: info@voyage.audio
Press-kit: <https://voyage.audio/press>

Politecnico di Milano & Voyage Audio Unveil Spatial Audio Research



San Diego, CA - Politecnico di Milano with support from Voyage Audio has unveiled the HOMULA-RIR (Higher-Order Microphones And Uniform Linear Microphone Array - Room Impulse Response) dataset, an extensive collection of Room Impulse Responses (RIRs) captured in a seminar room. The dataset, derived using both Uniform Linear Arrays (ULAs) and a network of Voyage Audio Spatial Mic Dantes (Higher-Order Microphones or HOM), is designed for varied applications in telecommunications, teleconferencing, and spatial audio. It showcases the Spatial Mic Dante's adaptability in accurately recording complex acoustic environments.

The paper will be presented during the [IEEE ICASSP 2024](#) conference in Seoul, in the [HSCMA Workshop](#) and is available for download here: <https://arxiv.org/abs/2402.13896>.

Federico Miotello, a PhD student with the Image and Sound Processing Group at Politecnico di Milano, and the lead author of the study, highlighted the effectiveness of the Spatial Mic Dante, stating, "We are very happy with the mics and we will use them for more acquisitions in the near future." This endorsement emphasizes the dataset's utility and the microphone's role in advancing audio technology research and development.

The HOMULA-RIR dataset aims to foster innovation in spatial audio technology by offering researchers, professionals, and enthusiasts a comprehensive tool for exploring new possibilities. The study's objectives include enhancing telecommunications, facilitating spatial audio applications, validating the effectiveness of Spatial Mic Dante, and inspiring future research and innovation.



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Utilizing a network of five Spatial Mic Dantes, the research team captured detailed audio data within a seminar room, simulating a teleconferencing scenario. This setup not only demonstrated the microphone's precision but also its potential in creating datasets that accurately reflect real-world acoustics.

The implications of this research are vast, offering new avenues for enhancing virtual reality environments, acoustic modeling in architectural projects, developing advanced teleconferencing systems, and much more.

Voyage Audio invites the research community, audio professionals, and enthusiasts to engage with these findings and explore the impact of spatial audio capture in their work. This foundational study encourages collaborative efforts and innovations in spatial audio technology.

For further information or to discuss potential applications, please contact Voyage Audio at info@voyage.audio.

Learn more about Spatial Mic:

<https://voyage.audio/spatialmic>

Paper Download:

<https://arxiv.org/abs/2402.13896>

About Voyage Audio

Voyage Audio was founded in San Diego, CA to design, build and market innovative microphones and software for audio recording and production. With a rich history in electronics, music and over 30 years of combined experience designing and building microphones, the Voyage Audio team has brought dozens of products to market for major mic manufacturers, winning both Pro Audio Review and TEC awards. Spatial Mic, their first product was named "Best of NAMM 2020" by multiple media outlets.