

Perceptive evaluation of sound sources timbre according to the acoustic environment

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Context:

This internship is part of the ANR SESAMES project, which is a collaboration between PRISM, MAP-GAMSAU, LIFAT, and CITER-S-LAT. This project aims to study a corpus of rural chapels, by comparing architectural and acoustic data. A measurement campaign was carried out in fifteen chapels, allowing the reproduction of their acoustics in an audio CAVE with 42 loudspeakers in an anechoic chamber. The objective of this project is to "map" these chapels on the basis of various objective attributes (reverberation time, dimensions, etc.) and perceptual attributes (perception of space, time, timbre, etc.).

Internship subject:

During a sound source diffusion inside an acoustic environment, the timbre of that sound source is modified. The aim of this internship is to understand how the acoustic environment can modify the perception of the timbre of sound sources. To this end, we propose to implement two listening tests using the measurements made in the chapels:

- A pairwise dissimilarity test
- A categorisation test of impact sounds

Work to be done:

- Bibliography
- Setting up experimental protocols
- Implementation of test interfaces (Matlab or Max/MSP)
- Passation des tests d'écoute
- Analysis of results
- Writing a summary report

Required skills:

- Audio processing and data analysis (Max/MSP et Matlab)
- Motivation for research work
- Autonomy

Compensation: around 600€ / month

Internship period: from February to August 2023