



Thesis Project Form

Title (tentative): Evaluating the effectiveness of audio-spatial training orientation via head-related audio-motor conflict in acoustic virtual reality

Thesis advisor(s): Sabatini Silvio P., Monica Gori (IIT), Davide Esposito (IIT), Andrea Canessa (UniGE)

E-mail: silvio.sabatini@unige.it

Address: Via All'Opera Pia, 13 - 16145 Genova (III piano)

Phone: (+39) 010 33 52092

Description

Motivation and application domain

Training audio-spatial orientation via head-related audio-motor conflict in acoustic virtual reality.

General objectives and main activities

The objective of this thesis project is to investigate whether an audio-spatial orientation training based on learning to orient toward a sound with altered head-related audio-motor contingency can improve audio-spatial orientation and navigation abilities. Starting from the literature, the students will be required to develop and validate an acoustic virtual reality task to test orientation and navigation abilities. If time will allow, the students will be involved in the experimental data collection and analysis concerning the audio-motor training effectiveness evaluation.

Training Objectives (technical/analytical tools, experimental methodologies)

The students will use Unity3D and C# to develop the virtual reality task. If time will allow, they will use MATLAB, R or equivalent to import, visualize and analyze data.
They will learn the basics of virtual audio rendering and the most compelling literature about audio-spatial human orientation and navigation.

Place(s) where the thesis work will be carried out:

Additional information

Maximum number of students: 1