



## COORDINATION BETWEEN IN SITU MEASURES, ACOUSTIC SIMULATION AND VIRTUAL ENVIRONMENTS, KEY FOR IMPROVEMENT PROPOSALS IN AUDIENCE HALLS

**Radu Lacatis<sup>1</sup>, Radha Montell<sup>1</sup>, Alicia Giménez<sup>1</sup>, Arturo Barba<sup>1</sup>, Rosa Cibrián<sup>2</sup>,  
Salvador Cerdá<sup>1</sup>, Jaume Segura<sup>2</sup>, José Romero<sup>1</sup>**

<sup>1</sup>Polytechnic University of Valencia, Camino de Vera s/n

<sup>2</sup>University of Valencia, Blasco Ibañez, s/n  
[rala1@doctor.upv.es](mailto:rala1@doctor.upv.es), [agimenez@fis.upv.es](mailto:agimenez@fis.upv.es)

### **Abstract**

This paper presents a methodology that uses the acoustic simulation, coordinated with the objective measurements in auditoriums, represented through the virtual environments, as a basic tool in the proposals improvements. Based on objective practical measurements in the studied halls, a simulated plan can be rised, as basis for presentation via virtual environments. The possibility of rapid exchange of surfaces and visual elements, allows a representative characterization of the room and the desired acoustic qualities adjusting.

**Keywords:** acoustics simulation, parameters, virtual environment.