

# Inter-Noise 2008

## **Title: Psychoacoustic Mapping within the Soundscape Approach**

**Authors: K. Genuit, B. Schulte-Fortkamp, A. Fiebig**

Environmental sound contains time-dependent acoustical features and patterns.

The consideration of the A-weighted SPL does not reflect the essential acoustical properties of a soundscape and further (psychoacoustic) parameters must be regarded. In particular, the noise patterns and temporal information of the continually varying acoustical scenery have to be identified and interpreted. Such features greatly affect the perception and evaluation of environmental sound. It appears inevitable to thoroughly study these acoustical characteristics of soundscapes to provide an initial basis for the classification of soundscapes.

But, how can such acoustical parameters and noise patterns be processed to obtain a detailed technical description of a soundscape beyond simple averaging of sound pressure levels? The answer could be the development of psychoacoustic maps reflecting more acoustical details than conventional noise maps. Ideally, the maps do not offer only time-invariant conclusions, but rather include dynamic, time-variant information of the soundscape.

On the basis of measurements within the investigated area of the Soundscape Project "Nauener Platz", Berlin, (1) psychoacoustic maps are constructed. These maps are evaluated helping to describe the outdoor living areas with respect to the acoustical conditions and their relevance for life.

(1) The Project is a module of the Project "Nauener Platz - Remodelling for Young and Old" in the framework of the research program "Experimental Housing and Urban Development (ExWoSt)" of the "Federal Ministry of Transport, Building, and Urban Affairs (BMVBS)" by the "Federal Office for Building and Regional Planning (BBR)". The project executing organization is the Regional Office Berlin-Mitte.