



## The perception of acoustic environments and how humans form overall noise assessments

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### **Abstract**

Human beings recognize patterns out of auditory sensations leading to sound perception. Due to the omnipresence of noise, the perception of noise has a strong impact on the well-being and life-quality of human beings. By means of cognitive processes, meaning is assigned to the world around us following rules with an inherent logic. A specific aspect concerns how humans retrospectively form overall assessments of hedonic or sensational profiles as they experience environmental noise. If humans are requested to provide an overall assessment of an environment regarding for example annoyance, pleasantness or restorativeness, they have to retrospectively assign a magnitude of perception or affective appraisal to the experienced past period. Since experiences of environments typically change over time, a deeper understanding of the cognitive processing of time-variant experiences is strongly needed. This processing is quintessentially contextual affecting auditory sensation, the interpretation of auditory sensation, and the responses to the acoustic environment. Frequently it can be observed that people rely more on patterns and key moments of episodes instead of averaging equally the whole stream of momentary experiences like a sound level meter does. The talk will outline basics of perception and present some insights into the complex mechanisms of forming overall noise assessments. Those insights are relevant for the fields of psychoacoustics, soundscape or even the experience of product sound quality and might be helpful to effectively protect humans from nuisance and adverse health effects.