8:25

3aNS3. Classification of urban historic areas through multi-sensorial perception and expectation. Luigi Maffei, Maria Di Gabriele (Built Environment Control Lab., RiAS, Sec. Univ. of Naples, Via S. Lorenzo, 81031 Aversa, Italy, luigi.maffei@unina2.it), Giovanni Brambilla, and Patrizio Verardi (CNR-Inst. of Acoust., 00133 Rome, Italy)

The historic areas of cities are often under renewal processes. Although the general aims are to increase tourist attraction, to protect and restore the cultural heritage, and to improve quality of life for the local citizens, the renewal processes are generally based on architectural and design projects that privilege the visual perception. This approach does not take into account that the perception and enjoyment of the atmosphere in a historic area is a mix of phenomena that should be considered, and citizens and tourists perceive these phenomena in a dynamic way (e.g., walking along streets, crossing squares) and from different points of view. A new approach for the classification of urban historic areas is proposed. The classification is based on two emotional dimensions (calmness and vibrancy) determined by the variations of environmental parameters such as sound quality and light, and aesthetical parameters such as spatiality and urban degradation. Relationships between perceived soundscape and other parameters are under investigation on the basis of the data collected by interviews. A new approach to draw maps dealing with subjective perception and expectation is proposed in the view to be a tool for the urban renewal decisions and more effective and sustainable projects.

8:45

3aNS4. Soundscape classification using acoustical patterns analysis. André Fiebig and Klaus Genuit (HEAD Acoust. GmbH, Ebertstr. 30a, 52134 Herzogenrath, Germany)

Urban locations can be characterized by acoustical fingerprints composed of specific sound sources dynamically emerging at certain times. This results in specific noise features and patterns of the soundscape, which allow for the identification of the urban place. To study this phenomenon at several locations distributed over the city of Aachen, short-term recordings of a few minutes with a binaural headset were made. Eight sites with different noise characteristics were chosen along a route through the city. Each location was measured twice with a certain time delay between the recordings to study the robustness of measuring the particular noise patterns and acoustical specifics of the respective place. The acoustical data as well as the subjective evaluations collected *in situ* on the basis of the soundwalk method were analyzed with respect to the identification of the uniqueness of the investigated places. The general aim of this study was to give recommendations and derive actions with respect to the preservation of pleasant noise features as well as the reduction of adverse noise aspects. The paper will highlight the feasibility of the approach as well as the applicability and acceptance of developed measures and actions.

9:05

3aNS5. Acoustic summary as a tool for soundscape analysis and design. Dick Botteldooren, Damiano Oldoni, and Bert De Coensel (Dept. Information Technol., Ghent Univ., St. Pietersnieuwstraat 41, Gent B-9000, Belgium, dick.botteldooren@intec.ugent.be)

The soundscape approach to designing sonic environments recognizes the importance of the sounds that can be heard by the attentive listener. These sounds not only contribute to the affective component of appraisal of the sonic environment but also carry the cultural identity of the neighborhood. For the purpose of discussion and communication in the soundscape design process, it is suggested to use a compilation of typical sounds amended with a sample of unusual sounds. To create such an acoustic summary automatically, a clustering system based on self-organizing maps (also called Kohonen networks) using well-chosen acoustical features is proposed. In addition, an oscillating neural network groups the sound into auditory streams with well defined duration. The proposed computational system continuously learns to identify the sounds that surround it and allows retrieving prototypical sounds for all identified clusters of sounds. Since the system is trained for a specific environment, the acoustic summary thus produced could contain more diverse samples of categories of sounds that often occur at this location. Listening panels, architects, and urban planners can use the acoustic summary for shaping their personal mental image of an existing or future sonic environment.

9:25

3aNS6. Interventions through the soundscape approach. Brigitte Schulte-Fortkamp (Univ. Berlin, 10587 Berlin, Germany, brigitte.schulte-fortkamp@tu-berlin.de) and Bennett Brooks (Brooks Acoust. Corp., Vernon, CT 06066)

Instead of calculations about noise, the soundscape approach uses the experience of the people who live in the environment as an essential part of the evaluation and also of the design of the environment. This is proven to lead to novel and effective solutions regarding developments and changes in diverse areas. Recent decisions regarding soundscape research as in the ISO TC43/S1/WG54 and the COST project TD 0804 will support and connect these promising procedures and solutions in a network. In this presentation, experiences in projects concerning methods and procedures with regard to upcoming research in diverse fields of changes will be addressed. For the evaluation procedure, it is needed to integrate physical and perceptual context variables, and to prove that soundscape is not just a matter of noise level reduction but accounts for peoples concerns and acceptance. Therefore, soundscape approaches will guide the paths in future research concerning community noise.

9:45

3aNS7. Participation of public and stakeholders in the design of urban quiet areas. Sergio Luzzi, Raffaella Bellomini (Vie En.Ro .Se. Ingegneria, Via Stradivari 23, 50127 Florence, Italy, sergio.luzzi@vienrose.it), and Francesco Borchi (DMTI, Univ. of Florence, 50139 Florence, Italy)

The strategic action plan and the city plan for noise control and reduction of Florence (Italy) have been developed by the authors, integrating the planned actions, in the frame of HUSH, a LIFE+ EU funded project concerning the Harmonization of Urban noise reduction Strategies for Homogeneous plans. Quiet areas and relative actions have been planned according to a Participatory Design approach, connected with the multi-sensorial conception of landscape and its perception and following a model aiming to actively

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