



## **OBSOLESCENCE and RENOVATION**

### **20th Century Housing in the New Millennium**

Conference: 14-15 December 2015

#### **Abstract / Initial Proposal Form:**

**1. Paper / Proposal Title:** Neighborhoods' profiles as an approach to evaluating urban sustainability.

**2. Format:** Written paper

**3. Author(s) Name:** Fernando Osuna-Pérez, Francisco Javier Abarca-Alvarez, Blanca Cano-Ruano, Sergio Campos-Sanchez, David Cabrera-Manzano y Rafael Reinoso-Bellido.

**4. Email contact details:** ferospe@ugr.es

**5. University or Company Affiliation:** University of Granada

**6. Abstract (300 words):** Urban sustainability faces challenges to improve the physical environment. Each level of analysis, from territorial to edification levels, requires different conceptual analysis. It has been developed numerous indicator systems, knowing the urban sustainability levels, in each case. Neighborhoods, however, have a diffuse physical delimitation and social definition. It is defined between the city and the building dimension.

We present a research on Andalusia Region neighborhoods, attending the obsolescence and quality of life values. The main objective is to facilitate the implementation of urban renewal actions optimized for each case of study. To do this, we have designed a tool adapted to the neighborhood level, using a set of indicators and attributes organized into seven thematic and three types of data sources. The neighborhoods have been grouped into taxonomies system based in the similar organization of its attributes. Evaluation is made with relational mapping using Self-Organizing Maps (SOM), obtaining shared features about urban sustainability.

The methodology presents a holistic approach, allowing the profiling of urban realities and keeping the identity of each neighborhood. We can conclude that there is not universal urban sustainability pattern, but each of those urban profiles has associated its own model, defined by a set of relevant attributes, delimited by its own thresholds.

#### **7. Author(s) Biography (200 words maximum for all authors):**

PhD. Arch. Fernando Osuna Perez. Member of the Department of Urbanism and Regional Planning. Prize for the Best Doctoral Thesis of Andalusia in Architecture, City and Building by the IUACC Institute and the University of Seville, 2014. Guest Researcher at the universities of Delft University of Technology, Roma Trè and Naples. He coordinates the following research lines: urban morphology of the city-river relationship; indicator systems and tools for urban sustainability; urban and territorial analysis by GIS mapping and social cartography.

PhD. Arch. Francisco Javier Abarca-Alvarez. Member of the Department of Urbanism and Regional Planning, University of Granada. His main research interests are focused on studies on urban density and morphology; self-organizing models and semantic mapping code as the urban heritage of the cities; and technologies for collaborative learning in formal and informal educational settings. He has received several Awards of Architecture and Planning and has exhibited his work in various exhibitions among which the International Exposition ARCO, 2002.

Other authors are Researchers are members of the Department of Urbanism and Regional Planning, University of Granada.

Submit forms to: [conference@architecturemps.com](mailto:conference@architecturemps.com)