

// SEMINARS 2011

Faro School of Tourism & Hospitality, 14th – 17th September
Dynamics & Perspectives in the 21st Century



// GUIDELINES

The theme of the Seminars is *Seminars Dynamics & Perspectives in the 21st Century*. It will be held at Faro School of Tourism & Hospitality, located in the Algarve, Portugal, from September 14th to 17th, 2011.

The annual Seminars are the only time in the calendar year when the leading research centres and researchers in *Art, Design, Landscape, Architecture, Construction and Tourism* get together to present their outstanding work to the general public. Private Companies and Investors get together to assist the presentations and exhibitions. There is no better opportunity for you to network and showcase your research.

This year Seminars will be dedicated to Sustainable Planning in urban and rural environments. Seven main themes will be explored at the Seminars: Water, Waste, Urban Biodiversity/Nature within the City, Mobility, Energy Restraint, Urban Forms, Density and Eco-construction.

CRISTINA RODRIGUES
ARCHITECTS



TURISMO DE PORTUGAL



// MAIN THEMES:

- **// WATER**
- **// WASTE**
- **// URBAN BIODIVERSITY / NATURE
WITHIN THE CITY**
- **// MOBILITY**
- **// ENERGY RESTRAINT**
- **// URBAN FORMS AND DENSITY**
- **// ECO-CONSTRUCTION**

// WATER

Water management is one of the major concerns of the 21st century. From the design phase, projects need to introduce efficient strategies able to preserve and make best use of this invaluable resource.

The design of urban and rural areas needs to integrate an efficient management of their water demand. This could be achieved by the generalised introduction into buildings, equipment which uses less water, such as thermostatic mixers, double volume toilet cisterns and education campaigns to increase user awareness of the need for water savings. Efficient management must also be encouraged on a collective level by the water companies to reduce leaks in drinking water distribution networks.

Urban and Rural design projects need to develop and incorporate rainwater recuperation and use systems able to meet domestic needs which do not require the use of human drinking water (irrigation and landscaped areas, toilets, laundry and floor cleaning) as well as the water requirements of large scale shared green spaces, fountains and ponds.

Urban and Rural design projects must consider and develop methods to control rainwater to reduce the risks of flooding and pollution resulting from runoff flood water. To that end, architectural projects must be designed as far as possible to mirror the natural water cycle through the use of porous and unsealed materials allowing the diffused penetration of rainwater. In situations where penetration is not possible, other techniques must be envisaged, such as storage prior to discharge at a controlled flow rate towards a stream, river, lake or reservoir.

// WASTE

The challenge represented by waste in Urban and Rural environments concerns both site waste and household refuse.

Development operations can demand that contractors deconstruct and recycle a large proportion of waste products locally. In order to make cost savings and also reduce the production of greenhouse gases by avoiding the removal of waste from the site by trucks.

On the other hand, the policy applied in an urban or rural design plans concerning household refuse simply complies with the general waste management policy developed by the Grenelle Environment Round Table which aims to reduce the production of household refuse by five kilograms per resident and per year over the next five years. New ways of dealing with waste must be developed, for example, developing household or apartment block composting systems and reducing the number of door to door refuse collections in order to reduce greenhouse gas emissions. Every resident in the community needs to be made aware of the need for selective sorting methods of their household refuse through the use of imaginative prevention campaigns. It is clear that without the active participation of citizens, local authorities will be unable to efficiently implement national objectives in this field while also controlling the costs involved in managing waste.

// URBAN BIODIVERSITY / NATURE WITHIN THE CITY

Nature within the city and biodiversity are fundamental to the sustainable city. It should not be forgotten that nature plays a vital role in adapting our cities to climate change. This is due to its thermal adjustment capacity which is able to control the urban thermal island effect and its ability to absorb rainwater and thus avoid the risk of flooding while also favouring the filling of the water tables.

The city is the source of a rich biodiversity that needs to be retained and enriched, especially through green grids, green and blue belts, and ecological continuities.

Urban biodiversity must be asserted in all urbanisation and urban renewal projects. It must also be able to adapt over time (which presupposes ecological connectivity). It is therefore necessary to take the urban and environmental contexts into consideration when designing and maintaining projects, be it in terms of architecture (planted roofs and elevations), green spaces, public spaces or preserved natural spaces.

All these aspects need to be incorporated into the plan for the restoration and enhancement of nature in the city. Design plans need to be able to provide new means and directions to improve the assimilation of all these issues.

// MOBILITY

New urbanisation and urban renewal projects are an opportunity to focus thinking on public transport systems and the need to provide greater density levels around their access points. Public transport makes it possible to drain travel movements and adapt density levels. An efficient public transport system will help reduce the need for people to travel by car and also increase local travel movements on foot or by bicycle. The combination of these aspects is the key to controlling urban spread and is achievable through a systemic approach to issues of town planning and mobility. To contribute to creating a synergy that incorporates public transport and urbanisation strategies, the sustainable city needs to include exclusive lane public transport projects.

Issues linked to transport are paramount in creating a sustainable urban area:

- The type of efficient urban public transport and its connections within the urban environment;
- The number of parking spaces per household: how can they be reduced?
- How to encourage the use of “soft” modes of transport?
- How to share the street between transport systems operating at different speeds?
- Should public transport run through the night and, if so, at what frequency?

// ENERGY RESTRAINT

Urban design plans need to develop a strategy that aims to diminish the consumption of fossil fuels as well as reduce the emission of greenhouse gases and atmospheric pollutants. The intention is to achieve this goal by controlling energy demand, placing emphasis on restraint (smart networks and meters, local building materials, insulation and building management, low consumption household appliances, etc.) and making use of renewable energies integrated into the architecture and landscape.

The approach to energy has completely turned away from the traditional concept of district only connected to the network. The intention now is to develop a complete energy strategy upstream from the design of new urban areas. This strategy could, for example, result in the introduction of specific systems (such as the use of heating networks, the installation of a biogas production unit, solar roof panels or the use of cogeneration in buildings) as well as a spatial organisation providing better energy management over consumption linked to housing units and transport (orientation of housing units, high energy performance buildings, access to public transport, developing alternatives to the use of cars, etc).

// URBAN FORMS AND DENSITY

The issue of density is rarely approached directly and is all too often simply discussed in terms of violently criticised mass apartment blocks.

However, density deserves discussion and thought as it is linked to the solvency of services associated with housing. A density permitting the presence of users within a limited perimeter provides the assurance of being able to introduce services inseparable from our day-to-day lives: schools, health care, shops, public transport, and so on. It is also a response to the reduced availability of the precious resource represented by the challenge of economic land use.

Cities must give thought to what “liveable density” means within specific contexts. There is clearly a need to increase density while adapting to the surrounding environment. This can be achieved through the use of a modified architectural methodology, giving thought to a typological variety of housing units favouring social mix, and a sympathetic approach to the layout of external public and private spaces.

// ECO-CONSTRUCTION

Designing high performance buildings and placing them along a roadway is not enough to create an Eco-district. Even more important than technological progress, the intelligent design of a district based on a comprehensive analysis of the site, the right orientation of the buildings, the use of passive energies (sunshine, wind, etc.) and connections to existing networks are clearly the first steps to be taken to ensure the design of high performance buildings. On the basis of these factors, a district that lays claim to being Eco/district must of course incorporate buildings that are exemplary in terms of eco-construction.

As a result, eco-construction design needs to incorporate aspects such as insulating technologies and materials, sustainable building methods and equipment, heat production, cooling systems, hot water, heat recuperation, use of rainwater, etc.