

Summer Workshop by: MONIKA THADHANI, CHRISTOPHER GROESBECK

# IIT-ETSAB

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## Architectural Innovation-Inverted Urbanism

*"An organism is a complex thing and growth so complex a phenomenon that for growth to be so uniform and constant in all parts to keep the whole shape unchanged would indeed be an unlikely and an unusual circumstance. Rates vary, proportions change, and the whole configuration alters accordingly."*

D'Arcy Wentworth Thompson "On Growth and Form"

**WORKSHOP OBJECTIVE:** Learn to collaborate on large scale planning with supporting disciplines to develop critical thinking and innovative approaches to future growth of cities-and develop prototypes for the future economies of the cities with a global perspective and approach. Learn to rethink the future functions of conventional and traditional programs of the city and the most innovative technologies supporting balance, self - sufficiency and continual growth.

**WORKSHOP BRIEF:** The workshop will prepare conceptual masterplan framework the El Raval District in Barcelona in the Old City adjacent to the Port which has historically has seen the highest concentrations of poverty and now is also the gateway for new immigrants which with the refugee crisis facing the European nations today becomes even more of a pressing issue. Issues of health, safety, security, education and legal acceptance to find work are balanced by an established social and physical infrastructure to provide a framework to address the marginalization of this district as well as the ensuing problems of crime, poverty and addictions that lead to a substandard quality of life. The workshop will create a prototype for the idea of rethinking the City of the Future. Students will collaborate in groups to produce a comprehensive master plan and then develop concept for individual districts, with some basic architectural language. The workshop will focus on proposing concept of hybrid developments with multidimensional program, adaptive to unpredictable changes, addressing social imbalance and the issues of city densification, climate change, considering ecology of future cities.

Students will focus on collaborative research to develop an overview of the current issues and strategies through examples of local and international contexts, comparing conditions related to the existing culture, climate, and political circumstances. Students will also look into natural systems to understand how to maintain balance of built environment. They will develop speculative hypothesis for new infrastructures that address the multiple needs of different investors at different scales, and implement them into the site-specific design for selected neighborhood, while impacting larger context of the city. They will explore the meaning of urban fabric in the evolution of cities worldwide as a lens to rethink the platform of Barcelona.

Workshop will serve as a bridge between the academic and professional world. Students will be challenged to work and think on a large scale,-similar to the nature of global practice today. As in science, students will be asked to consider issues on multiple levels and disciplines and to collaborate and discuss to better understand complex nature of cities. They will propose design concepts of vital urban environments, understanding the larger development needs through site-specific details.

**WORKSHOP GOALS:** Identifying the essential principles and questions of cities:

- What is the city of the future? How and why would it differ from the present?
- What is the role of innovation in addressing issues facing in our cities today and in the future?
- What is the full meaning of a healthy, well balanced city?
- How should a city respond to global warming, social justice and economic stress?

These are the few of many questions that have been asked throughout history and will continually be posed in the future. The responses will be relative to context and conditions however the underlying principles of positions taken will have a generality that transcends time and place.

The workshop will focus on the relationship between “Urbanization” and “Urbanism” and the role of innovation in addressing issues related to this global phenomenon. It will study the convergence of technological, economic, cultural, social and environmental issues critical for the health of the metropolis today and the future. It will also address an approach of inclusivity that is non-existent in development today, but critical to both the health and resilience of the metropolis of the future.

The class will investigate the nature of innovation in architecture, planning and related scientific, cultural and social disciplines, “**What is the reason for innovation and where does this spring from.**” In Plato’s “Republic” he writes “necessity is the mother of invention.”

The term “Smart City” is used to refer to innovation mostly in ground up approaches like the proposal for Masdar in Abu Dhabi, UAE and Pericuma in the state of Brasilia in Brazil. Smart City, Ideal City and Innovative City are terms that are intertwined yet do not mean the same thing. The term “radical approach” is also used with “innovation”. Yet when Antonio Gaudi’s architecture and urbanism was described to him as “radical” he responded by saying that radical meant going back to your roots. The meaning of terms will be investigated in context to a larger question, what is a city and is it a “designed” or an “organic” entity that responds to the varying conditions that surround it.

This class will focus on the evolutionary nature of urban growth in response to new programs, changes of context and upcoming epoch of future urbanism. It will attempt to project future model within the context of the historical city. It will elaborate study of new possibilities of urban form, physical and sociological configuration with consideration of the past, and focus towards the future. It will study the opportunities to redefine and improve urban livability with its developed city infrastructure. It will implement the possibility of evolving city structure and technology to integrate with the ecological systems, to create the opportunity to reduce the carbon level with growing city densification. The course will provide a platform to investigate and question today’s cities and will discuss designs that merge architecture with the environment to demonstrate new and relevant methods of arranging city spaces with the idea of harmoniously integrating Earth’s biological life forms with spaces of human activities.

As a response to the issue above the workshop will propose the idea of “**Reforesting the City**” as both an **Ecological Methodology** and a **Metaphor** for future urban development that will look at concerns of high density, study the interconnection between systems of open spaces and creating new imperative hybrids that transform the historical concept into the future urban model.

**Ecological Methodology: Reforesting City** will propose a study of a complementing urban landscape on both a micro and macro scale by articulating natural features of the living city. It will study options for

reshaping the city, using some of its existing lots and surfaces to create an **Urban Forest**, encouraging a better environment of healthy living, increasing and enhancing biodiversity, reduction of rain water runoff, reduction of solar absorption and its effect on the environment with additional environmental benefits.

**Metaphor:** In the transference of principles of the **Nature** to build environment, **Reforestation City** will confront the challenge of **Future Urban Model** that must bring the same benefits and outcomes to the environment as the natural world, in effect associating with the **Forest** to create sustainable urban habitat at every level and promote social and economic dialog with architectural environment. An urban model must maintain equilibrium habitat for life, similar to forest. Students will study/research optional construction techniques, new infrastructure possibilities, new technologies and high density programming opportunities, what will imply better, sensible redevelopment of infilling existing city structure with more intense, meaningful layer, connecting dense development with a natural fabric.

#### **WORKSHOP PRINCIPLES:**

1. Re-Connect Natural Systems.
2. Re-Claim Existing infrastructure and add new functions to connect and strengthen community.
3. Create "Culture" of low carbon Approach-Self-Sustaining Community.
4. Create new visions of adaptive re-use of Public Infrastructure to better serve and enhance the Community.
5. Expand and celebrate education and research and give it stronger visual presence in the Metropolis.

#### **KNOWLEDGE and EXPERTISE:**

- Focus on structure and history of urban planning with concurrent development of architectural responses to principles developed for macro scale development.
- Understand the interdisciplinary interplay between planning and architecture.
- Develop new ecological prototypes of urban architecture that will align and enhance natural systems to shape and redefine the future metropolis, addressing the global sociological, economic and ecological issues.
- Understand the relationship of the academic world and the professional world and their interconnection in developing responsible and ecological approaches for the future of our cities.

**Schedule:** Summer 2017, July 4<sup>th</sup> to July 14<sup>th</sup> .

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