



An International Workshop on “TRANSFORMABLE ARCHITECTURE”

25th Sept - 2nd Oct'2016



NATIONAL INSTITUTE OF TECHNOLOGY RAIPUR (C.G.)

(A short term course, an initiative as per the MHRD Scheme “Global Initiative on Academic Network (GIAN)”)

Overview

Architecture has always been trying to expand its inspirational sources. The new mediums with which architecture is conceptualized and produced today impregnate new theories and create new operational frameworks that struggle to be considered as the next evolutionary step. The emerging notion of 'active transformability' moves a step beyond the conceptual 'fluidity' and tries to literally incorporate dynamic abilities within a structure. By adopting such an approach, the produced space gets 'liberated' from the fixed and rigid relationships between its structural and morphological elements. Thus a dynamic condition emerges where the notions of 'possible position,' 'range of movement' and 'degrees of freedom' are embedded into the structure. The new flexible relations enable the creation of a living environment, with real-time changeable characteristics, that fosters new conditions for classic issues in architecture. It is moment of architectural evolution and it is evident that, paraphrasing Darwin, “the constructions most fit to survive are those that can respond and adapt to changes” rather than the ones that just follow a formalistic path. Kinetic elements can be implemented in construction to create spaces with real-time transformability in order to better accommodate temporal, functional and aesthetical spatial requirements. The course presents the parameters that should be considered prior to the application of kinetic systems in design, methodologies for a novel design process and the framework for implementation of kinetic systems, spanning from simple systems to more sophisticated ones, in order to create transformable and responsive spaces.

Objective – Educational Goal:

This studio/seminar course aims to introduce and familiarize students and architects with the implementation of actual movement in architecture in order to affect the form and function of a structure to such an extent so as to be described as ‘Transformable Architecture.’ Finally, it provides basic programming knowledge and the ability to manufacture smart assemblies through kinetic spatial models. ‘Transformable Architecture’ is regarded as the ability of spatial environments to respond to a variety of factors or stimuli by altering the position of structural elements within an extent that affects the overall impression of the form in space. This is a design direction that gains increasingly more interest by researchers and practitioners, mainly because it seems to be better suited to contemporary lifestyles of increased mobility, and can address issues of spatial requirements that arise for the near future. The course uses as its core element a series of interconnecting diagrams that best describe, control and evaluate the efficiency of a project. The goal is experimenting to produce literally kinetic spaces from a dynamic evolving design process, aiming to designed experiential effects on people and certain behavior to environmental conditions. The objectives of the course are:

- Ability to create architectural designs satisfying both aesthetic and technical requirements
- Knowledge of the relationship between people and buildings and between buildings and their environment and an understanding of the need to fit the buildings and the spaces between them to the human needs and scale
- Understanding the social underpinning of spatial organization of human habitats organization with analytical tools like space syntax analyses.
- Knowledge of the methods of investigation and preparation of a dynamic building brief for a design project
- Understanding of the structural design, constructional and engineering problems associated with building design and special issues
- Adequate knowledge of the physical problems and technologies and of the function of buildings so as to provide them with internal conditions of comfort and protection against the climate and other conditions.

Teaching Faculty



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Dr. Konstantinos-Alketas Oungrinis, Director of the Transformable Intelligent Environments Laboratory (TUC TIE Lab) School of Architectural Engineering, Technical University of Crete, Greece. His expertise is on transformable and interactive architecture. His research domain is optimization of space utilization through time focused on spatial economy, the connection of mood and environment expressed via the psych-spatial research, and flexible educational environments. He is author of 4 books and 39 research papers. In 2008, he is recipient of EUROPE 40 UNDER 40 Architecture Award, for his work on *Dream of B. Update Study of the Second Educational Group Charitable Association "Children's Asylum"*. From 2011-2014, he was also Scientific advisor to the projects *Airpotition, Legodome and Memorigami* funded by the "Innovation and Entrepreneurship Unit" TUC, under the program "Supporting Innovative Ideas". Since 2014, he is selected by Intel for the Galileo Donation Program for the application and evaluation of the Intel Galileo Development Boards. In 2015, he was silver winner of INTERNATIONAL DESIGN AWARDS (IDA-14) Los Angeles for his work "*Many Happy re –Turns*": having Multimodal subject to changing uses (learning space equipment, educational tool, baby furniture, game), ideal for education of children aged 3-8 years places.



EMINENT NATIONAL FACULTY

Dr . Abir Bandyopadhyay, Professor and Head, Department of Architecture, National Institute of Technology Raipur. He is Ph.D. from Indian Institute of Technology, Kharagpur in 2006. Since 1989, he is teaching various architectural subjects. His active research areas of interest are History of Architecture, Space Syntax Analysis and Town Planning. He has published a "*Text book on Town Planning*". He has published more than 15 papers in various international journals of repute covering subjects on Town Planning, Space syntax analyses, History of architecture etc. He has also presented papers in 5 international conferences held at Rome, Lisbon, Crete etc. He is a Fellow of Indian Institute of Architects and a member of executive committee of Indian Institute of Architects Chhattisgarh Chapter, Associate member of Institute of Town Planners India. Presently he is Vice-President of Institute of Town Planners India, Chhattisgarh Chapter. He is a life member of Indian Society for Technical Education, Life member of Indian National Trust for Art and Cultural Heritage (INTACH). Besides member of Indian Buildings Congress and Indian Institute of Interior Designers, he is expert reviewer of Journal of Council of Architecture, India and Housing and Building National Research Journal, (HBRCJ) Produced and hosted by Elsevier B.V.(on behalf of HBRC).

Schedule	Registration	
Dates:- 25th Sept 2016 To 2nd Oct 2016	Participants from Abroad	US\$500
	Professional Architects / Researchers.	Rs.5000
	Faculty from reputed academic/ technical institutions and PhD. Scholars	Rs.3000
	Students (B.Arch./ M.Arch./ MCP/MURP) Other institutes	Rs.2000
	Students (B.Arch.) from NIT Raipur	Rs.1000

Number of Participants will be limited to 40

To register, please complete the form and send to:

CONTACT US:

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