



Transformable Architecture. An Engineering Perspective

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Room: XOD 02 (In the basement) – **B 107**

Location: <https://goo.gl/maps/fNWanm9Gk3PL5XTu7>

Abstract: In achieving sustainability of the built environment, aspects of flexibility, structural efficiency and modularity gain significance, further enabling transformability of the building structures and components at different levels. Transformable architecture is associated with the capability of its components to transform into differing shapes in response to varying functional, environmental, or loading conditions. Related design proposals will be presented. By extension, reconfigurable rigid-bar linkage and hybrid structures will be exemplified in their composition and kinematics. The systems developed aim at minimum structural self-weight, efficient load transfer, as well as flexibility, controllability and improved kinetic operability through minimum number of actuators and energy consumption. The case examples provide a field of interdisciplinary research towards the development of innovative kinetic systems, whereas the structure continually evolves through its transformations.

Biography: Marios C. Phocas is a Professor at the Department of Architecture of the University of Cyprus, as well as co-principal of the Archimedes Research Center for Structural and Construction Technology. He has participated in a number of European and national research projects with regard to University Education in Architecture, design and development of Prototype Structures. He is the author of numerous publications in the areas of technology-driven design, kinetic structures and earthquake resistant structural building design. He has received 15 architectural awards for project designs, in Germany and Cyprus, and has participated in a number of international architectural competition juries.