

## EDITORIAL

Welcome to the inaugural issue of **International Journal of Architectural Engineering Technology**. IJAET is a peer reviewed academic journal for propagation of practices based information on engineering and technical issues pertaining to all aspects of building design and construction. Our aim is to publish most complete and reliable source of information on the discoveries and current developments in this area through original articles, review articles, short communications, etc. The journal provides a platform to facilitate the exchange of information between architects and engineers for technical advancement globally.



The four papers in our inaugural issue are on timely topics, and contain archival information and knowledge that would be useful to all readers.

The first paper of this inaugural issue is *The Influence of Religious and Cosmological Beliefs on the Solar Architecture of the Ancient World* by Guardiola *et al.* In the earliest civilizations of the Ancient World, sun worship developed in parallel with an understanding of the movement of the stars. That was the origin of an architecture that expressed a number of religious and cosmological beliefs. Studies of ancient archaeological remains have revealed that astronomical orientations strongly influenced the construction of some of the most important ancient architectural monuments. Besides its religious role, the sun regulated the culture of the Ancient World in many of its more practical aspects. For instance, the observation of solar and lunar cycles allowed people to anticipate seasonal change. This provided man with a means of organizing and improving agricultural and livestock activities and, in turn, influenced the construction of the large civil and religious buildings. The complex relationships that developed between cosmology, sun worship, early mathematics, and the orientation of buildings with respect to the position of the sun, also decisively influenced the birth and development of what has come to be known as passive solar design. This article describes some of these influences dating from the megalithic period to the development of Mesopotamian and Egyptian architecture.

In the second paper, Shih and Huang highlight the *Le Corbusier's Modern Museum Prototype: The Transformation of Unlimited Growth Museums*. This paper analyzes how Le Corbusier constructed the prototype of the modern museum according to the concept of Unlimited Growth, and how he interpreted and implemented the prototype in three museums. Through analyzing and comparing the development of the concept of Unlimited Growth and its implementation across three aspects of design, namely modules, space arrangements, and natural lighting, we noticed that Le Corbusier did not limit his design thinking to mere prototypes; instead, through the implementation process, he redefined the core design of the modern museum by transferring the focus from Unlimited Growth to lighting design, which would later become one of the key design issues of contemporary museum design.

Third paper shows the *Cultural Conflict Related to Ankara's Housing Problem* by Nazan Kirci, this study assesses reflections of the structure of culture that is in search of integrity in the architectural and urban context and follows a number of examples from Ankara in doing so. Ankara's nomination as the capital of the country was an effort at modernization of Anatolia. Apparently slum areas in Ankara commenced during the modernization process. Contrary to hybridization effects of post-modern globalization, the gap among socio-cultural levels in Turkey is enlarged and has caused deterioration affecting architectural unity. The solution of this problems are continue to be urban transformation of slum areas within removal projects or to conceal the disreputable appearance of houses. As a result of interaction between different social groups, individual needs and desires of slum dwellers have changed. Since they belong to neither rural nor urban culture, the aspiration of low-income groups to become part of the consumption society need to be examined through interdisciplinary studies and appropriate solutions in architecture developed accordingly.

The fourth and the final paper in this issue is on *Shear Strength of a Crushed Sandstone-Mudstone Particle Mixture* by Wang *et al.*, the present study focuses on the shear strength of a crushed sandstone-mudstone particle mixture. The mixture is widely used as a main filling material in many geotechnical engineering works. In order to investigate the shear strength of the mixture, triaxial tests under different confining pressures in laboratory are

performed for 108 specimens with different dry densities and water contents. The dry density of the specimens ranges from 1.80 to 2.10 g/cm<sup>3</sup>, and the water content from 4.00 to 9.00 % and to saturation. In the tests, four confining pressures, which are 100, 200, 300 and 400 kPa, are applied. The testing results indicate that the angle of shearing resistance of the mixture in unsaturated state ranges from 16.90 to 32.98°. The angle of shearing resistance is generally decreasing with the increase of the confining pressure. With the increase of the dry density, the angle of shearing resistance increases. The angle is generally increasing then decreases as a parabola with the increase of the water content. The wetting may decrease the value of the angle about 0.4 to 2.7°.

This Journal will publish editorials, original articles, letters related to every field of Architectural Engineering Technology. Avanti Publisher will also be showcased, since without their strong motivation and financial commitment, much of what has been accomplished would not have been possible.

For this first issue of the Journal, it is indeed a great pleasure to be able to publish original research articles and reviews by authors from Spain, China, Turkey and Taiwan. This new Journal will undoubtedly serve as a continuous stimulus to basic and applied research in years to come. It is an honor and privilege for me to contribute to its launch and early development.

I look forward to welcoming you to our community and sending our first issue containing reviews and research articles in the area of energy technology research.

**Kyung Hoon Lee**  
*Co-Editor-in-Chief*

International Journal of Architectural Engineering Technology  
Korea University,  
Seoul,  
South Korea