



## Inaugural Editorial Welcome

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On behalf of the Editorial Board, it is with great pleasure that we welcome you to the inaugural issue of the Journal of Architectural Engineering Technology (JAET).

JAET is designed to become the journal of choice for excellent academic and practiced-based research in Architecture, Engineering, and Technology with strong emphasis on multidisciplinary and collaborative research. Our ambition is for JAET to become the leading online forum for disseminating outstanding multidisciplinary global research outputs that will enhance and inform current debates in Architecture, Engineering, and Technology, especially as they relate to the built and natural environment.

One of such current debates is the huge ecological footprints of the built environment and the attendant impacts on the regenerative capacity of the ecosystem. Humanity currently demands 30 per cent more ecological services beyond the regenerative capacity of the earth. For example, the building and construction sector consumes more than one-third of global resources, and buildings consume between 25–40 per cent of all globally produced energy, account for approximately 30–40 per cent of global CO<sub>2</sub> emissions, and generates between 30–40 per cent solid wastes [1]. In a nutshell, the rate at which natural resources are depleted, and the enormous wastes generated overweighs the regenerative and absorptive capacity of the eco-system, and this carries huge inter and intra generational equity implication given that the ability of future generations to fulfil their basic needs is seriously at risks [2].

Such risks are not too difficult to imagine, considering the various forms and dimensions of global environmental deteriorations - global warming, climate change, flood, desertification, wild fires, rising sea levels, cyclones, and landslides. There is a view that the built environment has a fundamental role to play in mitigating and adapting to the consequences of global environmental degradation such as climate change effects, and this is predicated upon the fact that the built environment is a major contributor to global environmental degradation, as 75 per cent of all factors responsible for global environmental degradation are traceable to the built environment sector in 'one way or another' [3].

The built environment, according to Bartuska and Young (1994) involves:

*"a fascinating and challenging set of issues – human/social and cultural issues deal with why people build. Environmental issues deal with the natural and built context, locally and globally. And finally, technological issues deal with the material, energy, and financial resources, methods, and systems required to establish interrelationships and construct the built environment".*

Evidently, architecture, engineering, and technology define the built environment, and the efficacy of the response from these disciplines to global environmental challenges will ultimately determine the success or failure of possible policies and strategies to reverse, mitigate, and adapt to climate change effects. Architecture, engineering and technology are critical vehicles by which the integrity of the natural and built environment can be restored. Huge potentials exist to drastically reduce natural resource consumption in the built environment, par-

ticularly energy consumption intensity. Research has shown that in the UK construction industry, it is possible to reduce cement consumption by 72 per cent, aluminium by 88 per cent, steel by 83 per cent, 73 per cent in timber, and 50 per cent in aggregates [3]. Such reductions together with associated benefits can only be achieved when architects, engineers, and technologists see the concept of sustainability and development and the challenges that come with it not as a constraint but an opportunity to develop new materials, products, technologies, systems, and designs that add value to the built environment without compromising safety, functionality, and design quality and aesthetics.

JAET has a diverse and talented group of editors each with unique capabilities, expertise, and experience to enable it realise its main aim of becoming one of the leading and authoritative journals in multidisciplinary academic and practised based research in architecture, engineering, and technology.

We therefore welcome submissions not only from recognised areas of research, but also from new and emerging fields, e.g., sustainable architecture and technologies. As such, all papers addressing some aspect of research, or the research process, in any relation to architecture, engineering, and technology in the built and natural environment research will be considered. It is our desire to ensure that whilst subject to rigorous expert evaluation, each submission will receive progressive and supportive comments to enhance the article.

JAET is to be published online – JAET – Open Access - using a continual publication model in order to promote swift turnaround from submission through review and to eventual publication to give barrier-free access to literature for research. This eliminates the need for permissions to reproduce and distribute content. In developing countries where access to literature is a major impediment to academic research, JAET will make a huge difference in facilitating knowledge exchange and enabling quality research in developing and emerging economies.

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