

## **Sustainable User Comfort Using Building Envelope Design; From Traditional Methods to Innovative Solutions**

**Authors :** Soufi Saylam

**Abstract :** Environmental concerns, rising consumption of energy, and the high cost of mechanical systems have all contributed to increased interest in building energy efficiency and passive thermal design in recent years. This study attempts to make an evaluation of building envelope components and associated retrofits in terms of their impact on energy efficiency and occupant comfort in a sustainable context. The design of the building envelope, as a critical component of the building, has a significant impact on the organization of interior space and user comfort. In this regard, in order to achieve maximum comfort and energy savings, the design of the building envelope should include a thermal comfort system that adapts to climatic variables. This system should be developed in harmony with the environmental features, building shape, and materials used. The aim of this study is to investigate the role of the building envelope in sustainable architecture by integrating traditional envelope design principles and strategies with technological techniques, as well as to examine its role in providing physical and psychological comfort to users in the interior space.

**Keywords :** envelope design, functional needs, physiological comfort, sustainable architecture, traditional techniques

**Conference Title :** ICGBS 2025 : International Conference on Green Building and Sustainability

**Conference Location :** New York, United States

**Conference Dates :** January 30-31, 2025