

## أنظمة التصميم التطوري فى العمارة الحديثة

### Evolutionary Design Systems in Modern Architecture

أ.د/ سعيد حسن

أستاذ التصميم الإدارى ورئيس قسم التصميم الداخلى والأثاث بجامعة 6 أكتوبر- كلية الفنون التطبيقية

أ.د/ علا محمد سمير

أستاذ بقسم التصميم الداخلى والأثاث - جامعة حلوان- كلية الفنون التطبيقية

م.م/هاله محسن محمود السيد المحمودى

مدرس مساعد بقسم التصميم الداخلى والأثاث - جامعة 6 أكتوبر - كلية الفنون التطبيقية

#### **Research Summary:**

The research displays the philosophy of evolution in architecture through organism's evolution concepts which uses as a simulation of the ecosystems evolution in the nature, and how to use it in the field of architecture. In the first part of the research we will refer to the relationship between the evolutionary building and the surrounding environment. There are two trends of evolutionary architecture:

- The building evolves through build a new structure then link the old building with the new one.
- The capability of the building design structure for self-evolution.

The form and the technology are the elements of the evolutionary architecture. The second part of the research refers to the three systems of evolutionary architecture:

- Building system capsules.
- Modulation system.
- Genetic algorithm system.

#### **Research problem:**

That most structures of buildings are stable which is not compatible with the human future needs. Evolutionary architecture is a dynamic simulation of the evolution of the living organism. The evolution of this dynamic structures based on technological systems. So is it possible to create a self-evolutionary building?

#### **Search Goal:**

Emphasize the importance of evolutionary architecture systems as a new construction trend that suits the changing human needs in the future.

#### **Keywords:**

Evolutionary Architecture - Capsule Building System - Modular Architecture - Genetic Algorithm.