



Housing and Building
National Research Center



Housing & Building National Research Center International Conference
Future Vision & Challenges for Urban Development
"Green Smart Sustainable Building between Present & Future"
Cairo, Egypt - 15th - 17th December 2024



Ministry of Housing, Utilities
and Urban Communities



Dr. Tamer El Maaddawy

Professor of Structural Engineering
Department of Civil and Environmental Engineering
UAE University, Al Ain, UAE
Professor, HBRC, Egypt (on leave)

Lecture Title: Innovative Materials for Sustainable Construction and Repair Solutions

Abstract

Promoting sustainability in the construction industry involves the use of recycled materials to reduce the demand for natural resources, innovative cement-free binders to reduce the emission of carbon-dioxide, and nonmetallic reinforcement to prolong the functional service life, minimize the cycles of repair, and reduce the operational cost. This keynote speech presents sample research works carried out by the author's research team on characterization, applications, and performance evaluation of a wide range of sustainable construction and repair materials that involve the use of recycled aggregates, nonmetallic fibers, and geopolymer-based materials. Research findings are anticipated to assist practitioners and researchers in designing and implementing innovative engineering solutions that support the concepts of the circular economy and sustainability in the construction industry.

Field of Experience:

- Corrosion aging, monitoring, and service life prediction.
- Structural rehabilitation with innovative composite-based materials.
- Sustainable fiber-reinforced construction materials.
- Engineering Education.