Table of Contents

Preface

| Chapter 1: Advar | iced Materials ar | d Techno | ologies in | Construction |
|------------------|-------------------|----------|------------|--------------|
|------------------|-------------------|----------|------------|--------------|

| Effect of Magnetic Water on Properties of Fresh and Hardened Concrete S.I. Zaki, M. Shawky, B.A.A. El Rahman, M.H. El-Nashar, E. Zakrya and M.G. Zaki | 3 |
|---|-----|
| Impact of WO ₃ -Nanoparticles on the Setting Time and Early Strength for Different | |
| Cementitious Materials S.M.A. El-Gamal, M.A. Sayed, A. Mohsen, M.M. Hazem, M.M. Wetwet, F.M. Helmy and M. Ramadan | 19 |
| Chapter 2: Green Building Materials | |
| Performance Evaluation of Ultra High Performance Concrete Manufactured with Recycled Steel Fiber | |
| A.E. Elrefaei, M. Alsaadawi, M.M. Elshafiey, M. Abdolwahab and A.F. Oan | 31 |
| Performance Evaluation of Sustainable High-Strength Lightweight Concrete Incorporating Wastes as Aggregates at Elevated Temperatures | |
| A.M. Tahwia, M. Amin, N. Abdelaziz and A.M. Heniegal | 43 |
| Sustainable Disposal of Different Solid Wastes as Aggregate for Fabricating Lightweight Concrete: Physio-Mechanical Performance and Durability A.M. Heniegal, M. Amin, N. Abdelaziz and A.M. Tahwia | 61 |
| Production of Green Mortar Using Plastic Waste as a Thermal Efficient Building Material M.M. Abd El-Razik, H.M. Shaker, M.M. Kamil and N.A. Taha | 79 |
| A Review on the Effect of Marble Powder on Properties of Self-Compacting Concrete M. Amin, M. Hadzima-Nyarko, I.S. Agwa, A.M. Zeyad, B.A. Tayeh, A. Adesina and A.R.G. de Azevedo | 89 |
| Geochemical and Experimental Investigations of some Egyptian Volcanic Tuffaceous Rocks as Natural Supplementary Cementitious Materials | |
| R.E. El-Shafey, M. Heikal, H. El-Dsoky, G.M. Saleh and A.A. Omar | 101 |
| Chapter 3: Sustainable Buildings | |
| An Innovative Design for Environmentally Friendly Housing Model in Egypt H.A. Helal and R. Fouad | 117 |
| Treatment for Facade Building (Opaque Part) due to Climate Change in Various Regions of Egypt: Environmental Assessment of Office Spaces | 105 |
| M.M. Abd El-Razik, A. Al-Desouqi, N.K. Bahgat, T.A. Imam and T.M. El-Shazly | 125 |
| Chapter 4: Wastewater Treatment | |
| Advanced Treatment Technologies for Pollutants Removal in Wastewater M.E. Fawzy, H.M. Ahmed and H. F. Nassar | 143 |
| Nanomaterials as Next-Gen Corrosion Inhibitors: A Comprehensive Review for Ceramic | 113 |
| Wastewater Treatment R. El-Sherif, A.S. Mahmoud, D.E. Abd-El-Khalek and E. Khamis | 161 |
| | |