UAEU كلية الهندسة College of Engineering

جامعة الإمارات العربية المتحدة United Arab Emirates University

Department: **Civil & Environmental Engineering**

Treatment Of Pharmaceuticals Using Electro-Catalysis By Mixed Metal Oxide Anode

Main presenter: **Fatmah Abdullah Mohammed Alsereidi**

Supervisor: **Dr. Ashraf Aly Hassan**

Co-presenters: **Hamdah Raheem Maryam Salem Aldhanhani Maitha Obaid Alneyadi**

Abstract: *Pharmaceuticals in wastewater have the potential to affect ecosystems and human health in the long run. Antibiotics are extensively used and improperly discarded. We will be separating pharmaceutical waste from water by using the electrocatalysis process. The main aims are to identify the optimum conditions for antibiotic breakdown and to conduct a cost comparison analysis. For this research, amoxicillin antibiotic was selected due to its extensive utilization in the medical treatment for humans and due to its presence in our water resources. Variations in reaction conditions such as applied current, conductivity, pH, pollutant concentration, and treatment duration are used to obtain optimum parametric values. The overall strategy is to use two very stable metallic sheets, one is a mixed metal oxide anode and the second is stainless steel cathode connected to the external current source i.e., DC power to treat antibiotic stock solutions. In addition to evaluation of antibiotic degradation using a spectrophotometer, COD analysis, TOC analysis, and GC-MS studies. Several experiments were conducted to break down the antibiotic and to see how the various factors will affect the degradation percent. The results were sufficient. In conclusion, wastewater effluent containing pharmaceutical residues can be effectively treated using this method.*

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Department: **Architecture Engineering**

Exploring Potential Of Using Massive Timber Construction For Mid-Rise Buildings In UAE

Main presenter: **Reem Mohammed Alblooshi**

Supervisor: **Dr. Abdul Rauf**

Co-presenters: **Fatima Juma Almeqbaali Latifa Helal Alshamsi**

Abstract: *In the move towards using low energy materials, massive timber products are becoming popular in mid-rise buildings around the world. The development of mass timber products with excellent load carrying capabilities allows timber to be used in higher and more complex structures. Through research and development in the massive timber products, this emerging technology has developed to the stage where its environmental benefits outranks the traditional construction materials. Through the analysis of available scientific data about massive timer construction, this research aims to investigate the potential of using massive timber construction in midrise buildings in UAE. During this study, issues of fire safety, humidity/moisture, structural stability, acoustics and availability were investigated. It was found that this emerging construction technology has a potential to be used successfully in the UAE.*