



Wolfson Department of Chemical Engineering Seminar

Monday, Sep 4th, 2023, at 13:30

Room 1

**Biodegradable Polyesters-based Green Renewable Materials for Controlled Drug
Delivery Applications**

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MSc Seminar

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Biodegradable polymers-based renewable sources are widely considered valued drug delivery systems due to their low toxicity, safety, degradability, stability, and renewable nature. These biopolymers are extracted from various natural resources. Polymers of a carbohydrate origin have been prominent in drug delivery through various routes. Here, we are focusing on sugar derivatives that are of a carbohydrate origin and react with various modified and unmodified short diacids and study their suitability for drug delivery application. We hypothesize that utilizing sugar derivatives as a component in polymers' synthesis would result in various polymers with tunable properties and degradation profiles, which can be utilized for drug delivery applications of hydrophilic and hydrophobic drug molecules. For this, it is our goal to synthesize and characterize different novel biodegradable polyesters prepared from renewable resources of sugar derivatives and diacids in different conditions and to allow post-polymerization modifications and varied drug loadings. Here, synthesized polymers were intensively studied, and explored the correlation between structure and properties utilizing varied characterization techniques as well as degradation and drug release using different drug models.

Refreshments will be served at 13:15.