Seminar

Wednesday, March 7, 2018

11:00 AM – 206 Furnas Hall

Jian Yang

Professor

Department of Biomedical Engineering

Pennsylvania State University

Multifunctional Citrate Biomaterials and Applications

In recent years, citrate-based biomaterials have become an intense focus of research in the search of new functional biomaterials for solving unmet medical problems. Citric acid, historically known as an intermediate in the Krebs cycle, is a multifunctional, non-toxic, readily available, and inexpensive cornerstone monomer used in the design of citrate-based biomaterials. In addition to the convenient citrate chemistry for the syntheses of a number of versatile polymers that may be elastomeric or mechanically strong and tough, injectable and photocrosslinkable, and/or tissue adhesive, citric acid also presents inherent anti-bacterial and anti-clotting characteristics, which make citrate biomaterials ideal for a number of medical applications. All these features make citrate biomaterials promising and worth further developing. Interestingly, the citrate chemistry endows a great freedom in the design of imaging-enabled biodegradable polymers and small molecules, thus greatly expanding the functions and capabilities of the citrate-based biomaterials. Herein, a methodology for the design and biomedical applications of multifunctional citrate biomaterials will be discussed.

Refreshments at 10:45

University at Buffalo
Department of Chemical and Biological Engineering
School of Engineering and Applied Sciences