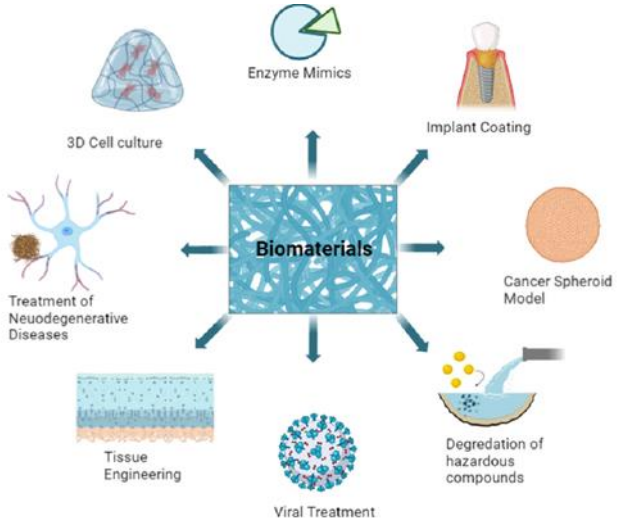
Seminars in Biotechnology BTEC 591 & BTEC 691

"Building from Scratch: Development of Nature Inspired Materials for Enhanced and Repurposed Functionality"

Thursday, December 29, 2022
13.30
GTU Institute of Biotechnology, Lecture Hall

Dr. Gülcihan GÜLSEREN
Konya Food and Agriculture University

Dr. Gülcihan Gülseren received B.Sc. in Chemistry Department at Bilkent University. She holds Master of Engineering Degree in Biotechnology from Osaka University. During her master study, Dr. Gülseren worked on synthesis of enzyme sensors, protein isolation and native chemical ligation-based protein labeling. After this experience on protein chemistry, during her doctoral studies she focused on functional biomaterials studies which is also at the interface in between chemistry and biology. Artificial catalysis, bioregenerative nanomaterials, tissue regeneration and synthetic biomaterials are among the main research subjects of Gülcihan's interest. Since 2018 Gülcihan Gülseren is affiliated as Assistant Professor in the Molecular Biology and Genetics Department at Konya Food and Agriculture University. Dr. Gülseren received UNESCO – L'Oréal Women in Science award in 2021.



In our research group, we try to form a bridge between chemistry and biology. In this large field, our main focus is functional biomimetic materials with biocatalytic, bioregenerative, therapeutic, cargo delivery and catalytic functionalities. Functional materials investigations are centered on understanding natural biomaterials for mimicking artificial ones. Therefore, research interest of our groups is based on chemical synthesis using biological and non-biological origin molecules to obtain nanostructures with desired biological responses. Similar to the natural processes, our biomaterial investigations are established on self-assembly and covalent/non-covalent interactions to investigate simplicity in complexity. In the talk, a variety of bioinspired/self-assembling nanostructures and their applications in diverse fields, namely enzyme mimics, surface coatings, bioregeneration, disease prevention, and hazardous chemical degradation, will be discussed.