



Conference Abstract

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Conference Abstract

NOVEL BIOMATERIALS FOR HEALTH APPLICATIONS

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Dr. Ahmed joined the University of Prince Edward Island in Dec. 2016, as an Assistant Professor in the Department of Chemistry and Faculty of Sustainable Design Engineering. She is an Associate member of Beatrice Hunter Cancer Research Institute. She acquired her PhD from the University of Alberta, in Chemical Engineering, with expertise in synthesis of polymeric vectors for gene delivery. She worked as post-doctoral fellow, in Chemical Engineering Department at the California Institute of Technology, on antibody targeted drug delivery vectors in mice models. She then moved to the University of Toronto and focused on the synthesis of peptides based antibacterial agents. The research themes in Ahmed laboratory focus on the development of controlled release biomaterials and well-defined peptide-based therapeutics to cure drug resistance disorders

The phenomenal speaker present this research in 1st International The Holy Quran & Science Conference and Exhibition-2019, held in Mississauga ON Canada. The Conference Abstract is published on behalf of the decision of acceptance and approval of Conference Organizing Committee.

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Abstract

The advances in material science and engineering has enabled the development of innovative biomaterials for the range of health applications such as synthesis of drug delivery carriers for drug resistant disorders, engineering biocompatible scaffolds for tissue constructs and the development of composite materials as water purification technologies. The physio-chemical properties of these synthetic biomaterials are well-known to impact their biological applications. In comparison to naturally existing biomaterials, the facile synthesis of polymeric materials and their self-assembly into different shapes, sizes and molecular weights, provide an excellent platform to tune the biological properties of synthetic carriers, as a



Additional information is available
at the end of the article.

function of the molecular weight, architecture, and composition of polymers.

The research interests in Ahmed group are focused on the development of novel, biologically inspired, materials (polymers, nanoparticles, composites and hydrogels) for delivery of small molecule drugs to overcome drug resistant bacterial infections. We are specifically working on the synthesis of vitamin B5 functionalized polymeric biomaterials, their nanoparticles and hydrogels and are investigating their antifouling and antibacterial efficacies to overcome drug resistant bacterial anomalies in vitro. Other projects in Ahmed laboratory focus on the development of FDA approved colloidal carriers for co-delivery of chemotherapeutic drugs in cancer tissues..

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