BioSystems Science and Engineering

Student Work- presentation

4 pm, December 04,2017
MRDG Seminar Hall

Novel Nanomaterials Based Cancer Diagnostics, Imaging and Therapies

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Abstract

Magnetic resonance imaging (MRI) is the most popular tool for diagnosis in medical science today. Inspite of rendering an excellent imaging spatial resolution, MRI suffers from low sensitivity which often results in several diseases such as cancers remaining undetected in their early stages of development. This project addresses this particular issue with the objective of developing and investigating nanoparticle-graphene oxide/graphene composites that will act not only as strong image contrast enhancing agents in MRI but also help in targeting the tumor cells.

In the current work, the speaker will talk about synthesis of array of graphene oxide (GO) with tailored oxidation. Graphene oxide can act as a multimodal platform for loading magnetic nanoparticles, anti-cancer drugs and targeting peptides. Oxidation degree of Graphene oxide plays an important role as it affects the GO's physical properties. The speaker will also provide insights into methods of preparation of GO based nanocomposites which can act as potential MRI contrast agents, and conjugation of peptides to GO.

Brief Bio of Student

Zinia Mohanta pursued her Masters in Applied Electronics and Instrumentation from Siksha O Anusandhan University and joined BSSE as a Ph.D. student in 2014. Currently, she is working on the synthesis of nanoparticles which can act as potential MRI contrast agents by investigating using NMR and have multimodality in Imaging and Theranostics.

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