Seminar

Title : Metallated Peptide Conjugates for Specific Targeting of Human Cancers

Speaker : Dr. Prasant K. Nanda

Post-Doctoral research Associate, Department of Radiology

University of Missouri-Columbia, USA

09 December, 2010

10:30-11:30 am, **Venue: L2**

Abstract:

Molecular imaging is the characterization and measurement of biological processes in living animals, model systems, and humans at the cellular and molecular level using remote imaging detectors. The scope of molecular imaging is not restricted to one particular discipline, but is interdisciplinary as it integrates and impacts the fields of chemistry, biology, and physics.

Molecular Imaging provides high-resolution images of the body for diagnosis of illness. It allows for monitoring of the therapeutic regimen for treatment of illness, aids to evaluate the interactions of a drug with its desired target and evaluate delivery, absorption, distribution, metabolism, and elimination of a drug or drug candidate from a living system

Peptides/Proteins/Antibodies that exhibit high-affinity for a particular receptor sub-type provide impetus for design and development of site-directed targeting vectors for diagnosis and treatment of human cancers.

The gastrin releasing peptide receptor (GRPr) is known to be over-expressed in a number of human cancers including prostate cancers. Bombesin (BBN), an amphibian analogue of the human GRP, is capable of selectively targeting the GRPr with high specificity and affinity. Hence, the purpose of our research is to develop metallated bombesin analogues which could be able to localize in tumor tissue, should prevent de-metallation under *in vivo* conditions, rapidly clear from non-target tissues and more importantly could be utilized for imaging/therapy of tumors over expressing GRPr.