****

TIMS/MANA Joint Seminar

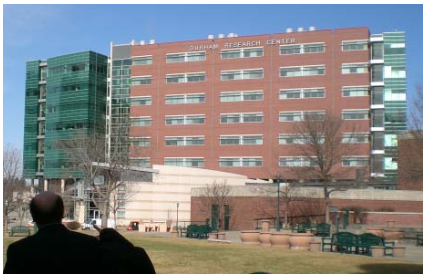
****

SPEAKER: **Tatiana K. Bronich, Ph.D**
Associate Professor
Department of Pharmaceutical Sciences and Center for Drug Delivery and Nanomedicine, College of Pharmacy, University of Nebraska Medical Center, Omaha, NE 68198-5830

TITLE: **Block Ionomer Complexes as Novel Nanomedicines**

Date: **March 11 (Wed.), 16:00-18:00**

Site: **Lab.Adv.Res. B0108**



SUMMAY Block ionomer complexes are spontaneously formed by reacting the block (or graft) copolymers containing hydrophilic non-ionic and ionic polymeric segments (“block ionomers”) with oppositely charged species such as polyions, proteins, surfactants, or metal ions. These complexes self-assemble into particles of nanoscale size and form stable aqueous dispersions. The latter enable, uniquely, encapsulation of charged therapeutic molecules. The pH- and salt-sensitivity of such block ionomer complexes provide a unique opportunity to control the triggered release of the active therapeutic agent. The block ionomer-metal complexes can be used as templates to synthesize a novel type of entirely hydrophilic polymer micelles with cross-linked ionic cores. These core-shell materials represent nanosized gels with the core comprising a swollen network of crosslinked polyions surrounded by a nonionic polymer shell. The potential applications of such cross-linked micelles as nanocarriers for drugs and imaging agents will be discussed.

Date March 11, 2009
Site, Room Lab.Adv.Res. B0108, University of Tsukuba
Organizer, Tsukuba Research Center for Interdisciplinary Materials Science (TIMS), University of Tsukuba
Co-organizer, International Center for Materials Nanoarchtechtonics, WPI Research Center Initiative, MEXT