Preclinical Characterization of Nanomaterials

The Nanotechnology Characterization Laboratory (NCL) conducts preclinical efficacy and toxicity testing of nanoparticles intended for cancer therapeutics and diagnostics. The NCL is a collaborating partnership between NCI, the U.S. Food and Drug Administration and the National Institute of Standards and Technology. As part of its assay cascade, NCL characterizes nanoparticles' physical attributes, their in vitro biological properties, and their in vivo compatibility using animal models. The Laboratory facilitates the rapid transition of basic nanoscale particles and devices into clinical applications by providing the critical infrastructure and characterization services to nanomaterial providers. It is a national resource available to investigators from academia, industry and government. The presentation will provide an overview of the NCL, discuss parameters that are critical to biocompatibility, and present assays used for preclinical characterization of nanoparticles.

Wednesday, March 29, 2006
4:00 pm
B02 Coordinated Science Lab

Scott E. McNeil, Ph.D.
Director, Nanotechnology Characterization Laboratory
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Dr. McNeil serves as Director, Nanotechnology Characterization Laboratory for the National Cancer Institute at Frederick where he conducts preclinical characterization of nanomaterials intended for cancer therapeutics and diagnostics. He has advised Industry and State and US Governments on the development of nanotechnology and is a member of several governmental and industrial working groups related to nanotechnology policy, standardization and commercialization. Prior to joining NCI-Frederick (i.e. SAIC-Frederick), he served for three years as Senior Scientist in the Nanotech Initiatives Division at SAIC where he transitioned basic nanotechnology research to government and commercial markets. Dr. McNeil's professional career includes tenure as an Army Officer, with tours as Chief of Biochemistry at Tripler Army Medical Center, and as a Combat Arms officer in the Gulf War. He is an invited speaker to numerous nanotechnology-related conferences and has six patents pending related to nanotechnology and biotechnology. He received his bachelor's degree in chemistry from Portland State University and his doctorate in cell biology from Oregon Health Sciences University.