



CRDF Partner Development Event: Bio Nano NSTI Nanotechnology Conference and Trade Show

Nanotechnology Enabled Medical Diagnostics and Drug Delivery

Lead Scientist	Sergei Ignatov, Laboratory Head, Scientific Research Center for Applied Microbiology and Biotechnology, Obolensk, Russia
Business Sector	Pharmaceuticals, Biotechnology
Technology	Method for preparation of affine surfaces based on the chemical modification of protein A
Stage of Development	Laboratory Testing Ongoing
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Brief Description

Nanotechnology is changing medical industries from diagnostics to pharmaceuticals. With the development of biochips and other nanotech advances in biotechnology, the molecular diagnostics market is projected to expand to \$12 billion by 2010 and \$35 billion by 2015. Nanotechnology-enabled drug delivery systems are also projected to reach \$1.7 billion (\$US) in 2009 and over \$4.8 billion in 2012.

The first technology offered is for medical diagnostics using nano-sized biosensors. The supersensitive detection system will be able to draw nano-fragment samples and visualize the interaction between antibodies and single nano-fragments.

The second technology offered is a novel drug delivery system based on nano-bicelles for hydrophobic antibiotic and other drugs. Bicelles represent an intermediate morphology between vesicles, lysosomes and micelles, combining some of the attractive properties of these membrane systems, especially for hydrophobic compounds. Nano-enabled drug delivery makes it possible for drugs to permeate through cell walls and reach tiny parts of the body.

Business Collaboration Opportunities

The researchers are looking for a strategic partnership with a US company for continued research & development, investment, and marketing.

