New Ventures' Technology Commercialization: From Research Through Business Education and Development to Industry Product

Jon Pratt[1], Elena Lvova[1], George Grozdits[2], and Yuri Lvov[3]

[1]Center for Entrepreneurship and Information Technology, [2]School of Forestry, and [3]Institute for Micromanufacturing, Louisiana Tech University, Ruston, LA

We report the results of the formation of teams of student and faculty researchers to commercialize new scientific methods in nanotechnology.

Team Building for Research in Nanotechnology

At the Institute for Micro-manufacturing of Louisiana Tech, more than 60 peer-reviewed publications, five U.S. patents and 12 Reports of Invention are associated with Electrostatic layer-by-layer self assembly (LbL). In 2004-2005 we created a team of business and engineering professors and students to promote development and commercialization of this LbL technology. The Center for Entrepreneurship and Information Technology (CEnIT) has sponsored offerings of a course entitled "Innovative Venture Research" in which engineering and business students, faculty and mentors work together to research the commercial feasibility of university intellectual property. Two of these teams have been assigned applications of LbL: nanocoating pulp fibers for better paper, and nanocapsules for controlled release of drugs. The teams gained valuable knowledge and experience in disclosures, patents and marketing. The teams made valuable contacts with lead users who were interested in partnering for further commercialization of the technology. Such teams are made more effective by training available at a new Challenge Course for team building constructed on campus. A Challenge Course is a series of challenges in an outdoors setting designed to improve the strength of a working team, to encourage bonding, camaraderie and cooperation as the team works together toward a mutual goal.

Nanotechnology for Stronger Paper with Better Recycling

A CEnIT & IfM team contacted 11 paper companies from Louisiana, Texas, Arkansas, Georgia, and Maine. Collaboration with several regional companies involved in the paper industry were begun. A research contract with a major paper corporation has been signed, and another is in preparation. As a result of the research, a start-up company, Nano Pulp and Paper, LLC (NP&P) has been formed. NP&P's mission is to customize LbL for customer needs to promote licensing.

Nano Pulp and Paper, LLC

Nanocapsules for Drug Delivery and Sustained Release

Commercialization Efforts A CEnIT & IfM team contacted 8 pharmacy companies Nation-wide. A $270,000 research contract with a major pharmaceutical company has been signed, and another is possible. New applications of nano-encapsulation for fine seed protection were also proposed as a result of the team's research.