



Agriculture Secretary Schafer Awards More Than \$4.1 Million for Use In Woody Biomass Development

Agriculture Secretary Ed Schafer announced the award of \$4.1 million to help 17 small businesses and community groups find more innovative uses of woody biomass from national forests in new products and renewable energy. The grants will help create markets for small-diameter woody material, damaged and other low-valued trees removed to reduce the risk of fire hazard, insect infestation or disease. For the full story and a complete list of grant recipients, visit

http://www.usda.gov/wps/portal/!ut/p/s.7_0_A/7_0_1OB?contentidonly=true&contentid=2008/03/0076.xml

Chemist Receives Fulbright Senior Research Award

Dr. Kenneth E. Hammel, research chemist at the Forest Products Laboratory, has been named recipient of a Fulbright Senior Research Award by the German-American Fulbright Program.

Hammel will be studying mechanisms of lignin-degrading fungi, focusing on newly discovered enzymes that have an important role in carbon cycling in forest soils. These enzymes also have potential applications in biotechnology for selective oxidations of chemicals. Professor Martin Hofrichter at the International Graduate School in Zittau, Germany, is hosting Hammel, whose 10 months of research abroad begin October 1, 2008.

To see a press release on this accomplishment, visit <http://www.fpl.fs.fed.us/pressroom/newsreleases/nr-2008mar25-hammel-fulbright.html>

Biofuels Project Utilizes Forest Residue Feedstock

Flambeau River Biofuels, LLC, is proposing to construct a modern, integrated, biofuels production facility using residues from forest operations as feedstock. Congress appropriated funds to the Forest Products Laboratory for a forest biomass to energy demonstration grant to Flambeau River Biofuels. The grant will be used to conduct a detailed engineering feasibility study of the proposed project. The facility is to be located in Park Falls, Wisconsin and when completed will produce Fischer-Tropsch liquid transportation fuels as well as heat and power for Flambeau River Papers, LLC. For more information on Flambeau River Biofuels, visit

<http://www.fpl.fs.fed.us/resources-products/documents/bioenergy/flambeau-river-biofuels.pdf>

Patent Issued to FPL Researcher for Adhesives Work

A U.S. Patent was issued for "Water-Resistant Vegetable Protein Adhesive Dispersion Compositions" invented by FPL chemist Charles R. Frihart and James M. Wescott. The specific invention is water-resistant, protein-based adhesive dispersions and methods for preparing them. These adhesive dispersions exhibit superior water resistance, and can be used to bond wood substrates, such as panels or laminates, or can be used in the manufacture of other composite materials.

Smallwood 2008 and Bioenergy & Wood Products Joint Conference: Cutting Edge Technologies to Optimize Utilization of Smallwood and Woody Biomass

May 13–15, 2008 at the Monona Terrace Convention Center, Madison, Wisconsin, USA. This conference provides state of the art information on small-tree utilization and foster peer-to-peer learning. An international slate of speakers including researchers, material and equipment suppliers, manufacturers, and end-users will attend. <http://www.forestprod.org/confsmallwood08.html>

The Department of the Interior in cooperation with the National Association of Conservation Districts is making a limited amount of financial support available to assist with registration, travel, and lodging for the

March 2008

In this issue:

- More than \$4.1 million awarded for woody biomass development
- Chemist receives Fulbright Senior Research Award
- Biofuels project utilizes forest residue feedstock
- Patent issued to FPL researcher for adhesives work
- Smallwood 2008 Conference
- Nanomanufacturing Workshop
- Review of FPL research programs
- Manual developed for wood preservation in highway applications
- Study examines wood's ability to remove metal ions from water
- Moisture control in insulated raised floor structures

conference. The primary intended recipients are local officials from conservation districts, RC&Ds, and counties. For more information and scholarship application forms, please visit <http://www.forestprod.org/smallwood08scholarships.html>

Cross Industry Issues in Nanomanufacturing Workshop

The Forest Service and FPL are cosponsoring a workshop on Cross industry Issues in Nanomanufacturing on May 20 - 22, 2008 on the NIST Campus in Gaithersburg, MD. NIST and the American Forest & Paper Association's Agenda 2020 Technology Alliance are the other cosponsors. The workshop will focus on the identification of discrete and universal technical challenges specific to nanotechnology manufacturing practices and the performance of nanomaterials and products. Through presentations and breakout sessions, collaborative research programs that cross industries, government, and academia will be defined. The goal is to find analogous problems and potential solutions within widely differing industries. Specific areas to be covered are surfaces/interfaces/non-bonded interactions of nanomaterials; nano-enabled composites and matrices; and separations and fractionalization of nanomaterials. Information on the workshop can be found at the following website: http://www.nist.gov/public_affairs/confpage/08520.htm

AF&PA/TAPPI to Review FPL Research Programs

The American Forest & Paper Association's Agenda 2020 Technology Alliance and the Technical Association of the Pulp and Paper Industry Industrial Liaison Committee will meet at the Forest Products Laboratory on April 29 -30, 2008. John Cowie, Technical Director of AF&PA Agenda 2020 and David Bell, VP of Corporate Development and Marketing for TAPPI serve as the co-chairs. The committee meets annually to review FPL's pulping and papermaking R&D to include research activities in forest biofuels and nanotechnology. As part of the meeting, Dr. Dean Benjamin of NewPage Corp will give a presentation on the forest biomass gasification project slated to be installed at their pulpmill facility in Wisconsin.

Field Evaluation Manual Developed for Wood Preservation in Highway Applications

In cooperation with the Bridge Engineering Center at Iowa State University, FPL research scientists in Durability and Wood Protection have developed a field manual entitled "Field Evaluation of Timber Preservation Treatments for Highway Applications" for the State of Iowa. The manual addresses the field effectiveness of various treatment alternatives used on Iowa roadway projects. One of the aims of the research was to determine if current specifications and test metrics are adequate for providing proper wood protection to over 2900 bridges in Iowa that are wholly or partially constructed of wood. Authors are Jake J. Bigelow, Carol A. Clausen, Stan T. Lebow, and Lowell Greimann. The research was funded through a grant from the Iowa Highway Research Board and Iowa Department of Transportation.

Study Examines Wood's Ability to Remove Metal Ions From Water

An article published in the February 2008 issue of Bioresources, an on-line journal of North Carolina State University, describes FPL research that examines a method to selectively modify one of the major chemical groups contained in the polysaccharide portion of wood. The study demonstrates the technical feasibility for improving wood's ability to remove copper (II) ions from water, increasing the value of wood-derived material as a low-cost media for use in the clean-up of water resources. Follow this link for the full article:

http://ncsu.edu/bioresources/BioRes_03/BioRes_03_1_0204_McSweeny_RCEM_Periodate_Pine_Copper.pdf

Study Looks at Moisture Control in Insulated Raised Floor Structures

Under-floor insulation in raised floor structures can lead to moisture problems. To address this issue, Forest Products Laboratory scientists Samuel Glass and Charlie Carlil, in collaboration with Louisiana State University Agricultural Center (LSU AgCenter), have installed monitoring systems and various types of insulation in 12 homes in Southern Louisiana, eight of which are in Musicians' Village, a New Orleans Habitat for Humanity project. Insulation systems to be tested over a 12-month period include rigid foil-faced polyisocyanurate foam, open-cell sprayed polyurethane foams of varying vapor permeance, closed-cell sprayed polyurethane foam, and kraft-faced fiberglass batt insulation. Best Practices developed from results of this research will improve the durability and moisture tolerance of wood-frame housing in the hot, humid climate of the Gulf Coast region. The research is being conducted through the Coalition for Advanced Wood Structures (CAWS), in partnership with APA-The Engineered Wood Association and Southern Forest Products Association (SFPA). For more information, visit <http://www.fpl.fs.fed.us/documnts/rips/fplrip-4716-005-lsu-moisture-raised%20floors-durability.pdf>



**Forest Products
Laboratory**



Forest Products Laboratory
One Gifford Pinchot Drive
Madison, Wisconsin 53726
Phone: (608) 231-9200
Fax: (608) 231-9592
<http://www.fpl.fs.fed.us>