



Cellulosic Biofuels Research Recognized as Exemplary Case Study

Junyong Zhu, research general engineer at the Forest Products Laboratory, has garnered national recognition for his effort in creating a "highly productive research and development collaboration." Zhu's project was selected as an exemplary case study to be presented at the Agriculture, Food, Nutrition, and Natural Resources Research and Development Round Table on March 15, 2011, in Washington, D.C. The featured project is a collaborative effort with the University of Wisconsin-Madison to develop a sulfite pretreatment to overcome recalcitrance of lignocellulose (SPORL). The SPORL process helps overcome the natural resistance of biomass to enzymatic deconstruction, a necessary step in biofuels production. Out of over 60 nominations, this project was among eight selected nationwide to be presented at the Round Table. Targeted to high-level federal agency officials in research, the Round Table is intended to help enhance future collaborations between Federal research, universities, and private industry.

Bioenergy Research Grant Awarded

FPL researcher Ron Sabo, along with co-investigators JY Zhu, Craig Clemons, Phil Kersten, and Lih-sheng Turng (University of Wisconsin), was recently awarded a five-year USDA National Institute of Food and Agriculture research grant in the amount of \$986,877. Their research is aimed at integrating the production of biofuel with nanocellulose as a forest biorefinery co-product. One key barrier to converting woody biomass to biofuel is the natural resistance of cellulose to enzymatic deconstruction. Past research efforts in cellulosic biofuels have focused on overcoming this resistance. Alternatively, this project proposes to convert the resistant cellulose into a valuable nanocellulose co-product for use as high-performance polymer reinforcements.

Researcher Honored with Early Career Scientist Award

Forest Products Laboratory researcher Samuel Zelinka was awarded the 2010 Research and Development Deputy Chief's Early Career Scientist award during ceremonies on February 1, 2011, in Washington, D.C. This award recognizes scientists who are at the beginning of their research careers and have demonstrated, through personal accomplishments, outstanding capability and exceptional promise for significant future achievement. In a letter to Zelinka, Forest Service Deputy Chief Jimmy Reaves stated the award is in recognition of Zelinka's "outstanding research productivity, major contribution and impact on science, and excellent efforts in science delivery." As a recipient of the Early Career Scientist award, Zelinka is now an automatic nominee for the 2011 Presidential Early Career Awards for Scientists and Engineers competition, the highest honor bestowed by the United States government on science and engineering professionals in the early stages of their independent research careers.

Non-Toxic Biocide Patented for the Prevention of Mold Growth, Decay, and Termite Infestation of Wood

A Forest Service patent, "Multi-Component Biocide Composition for Wood Protection" (Durazol), was issued on December 28, 2010. Invented by FPL researchers Carol Clausen and Vina Yang, along with Michael West (non-Forest Service), Durazol is a multi-component biocide that provides improved protection against mold growth, fungal decay such as brown-rot fungi and white-rot fungi, and termite infestation of wood-based materials. Most current preservative treatments are intended for outdoor use and do not address all three types of problems. Durazol inhibits mold and decay fungi growth, kills termites, and is suitable for indoor use as it is non-toxic, nonvolatile, substantially odorless, and hypoallergenic.

March 2011

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Patent Issued for Biofuels Production Using Flash Pyrolysis and Gasification

A Forest Service patent was issued on January 25, 2011, "Method and Apparatus to Produce Synthesis Gas via Flash Pyrolysis and Gasification in a Molten Liquid." Developed by FPL researcher Mark Diitenberger and University of Wisconsin-Madison researcher Mark Anderson, the invention converts solid biomass into synthesis gas, or "syngas", for the production of energy. Syngas is a feedstock comprised of hydrogen, carbon dioxide, and carbon monoxide that can be converted into liquid hydrocarbon fuels. This process is advantageous as it provides increased output of synfuel from woody biomass, allows for ready removal of contaminants, and does not require any external water sources. Additionally, the device can be built small enough to be integrated into a self-powered mobile unit. This invention is jointly owned with the University of Wisconsin-Madison. The Wisconsin Alumni Research Foundation, the University's patent and licensing arm, is currently looking for licensees for this technology.

FPL hosts open house on Earth Day 2011

The Forest Products Laboratory is inviting the public to visit our facility during an open house on April 22, 2011. Visitors will have the opportunity to learn about FPL's impact on society as they tour our new Centennial Research Facility, speak with researchers about current projects, and view displays on the accomplishments made over the past century. The event will also feature activities for children and a visit from our friends Smokey Bear and Woodsy Owl. Watch for more information on our website at www.fpl.fs.fed.us



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