

November 2008							
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INSIDE VT WOOD

Reminder...

Remember to submit department news items by Friday 3 p.m. of each week to Will Pfeil at wpfeil@vt.edu for inclusion in Inside VT WOOD each Monday morning. All past issues of Inside VT Wood reside on our department website under the [publications link](#).

News From Paul Winistorfer

- I will attend the WoodLINKS USA Board of Directors meeting in Chicago of Thursday of this week.
- Graduate Seminar will not be held this week. We are arranging a special seminar for the following week by Dr. Liam Leightley, Director of the Institute for Advanced Learning and Research in Danville, Va. Watch for seminar details in the coming days for the seminar during the week of November 17th.

Gi Young Jeong Defends!

On Thursday, October 30th, Gi Young Jeong successfully defended his Ph.D. dissertation entitled "Tensile Properties of Loblolly Pine Strands Using Digital Image Correlation and Stochastic Finite Element Method." His research examined the mechanical properties of loblolly pine strands and modeled these properties as functions of the mechanical properties associated with earlywood and latewood samples cut from similar stock. Dr. Hindman served as his committee chairman. Other committee members included Dr. Loferski, Dr. Zink-Sharp, Dr. Thangjitham from Engineering Science and Mechanics, and Dr. Watson from Computer Science and Engineering. Gi Young plans to work for Dr. Hindman as a postdoctoral researcher at Virginia Tech. Congratulations, Gi Young!



Manufacturing Systems Team Hike to Rocky Knob

On Saturday, November 1, 2008, the department's manufacturing systems team went on their annual hike to Rocky Knob along the Blue Ridge Parkway. Perfect weather and gorgeous Fall colors repaid the hikers for the challenge of hiking 11 miles in hilly country.



◀ VT's Department of Wood Science and Forest Products manufacturing systems team on the Rocky Knob (first row left to right: Saoudatou and Baidy Ba; second row left to right: Becky Snidder, Andre Buck, and Earl Kline; third row left to right: Mathias Schmitt and Gavin Wherry. Photographer: Urs Buehlmann.



While the energetic graduate students set the pace, faculty members were stressed to keep up. Earl Kline, struggling to follow the graduate students, with Urs not even in sight. ▶



While the diversity of the team allowed for endless discussions and interpretations, everybody was in awe of the beauty that nature offers every Fall season for free.

WS&FP Has Strong Showing at Green Materials '08

On November 3, 2008, the Green Building Materials '08: Definitions, Design and Delivery was held at the University of Massachusetts at Amherst. Four members of Wood Science attended, including Phil Araman, Tom Hammett, Daniel Hindman and Kevin Knight. The group presented three presentations from work being done at Virginia Tech. Phil Araman presented "Wood Waste Characterization and Potential Recycling of Wood Materials from a Green Home Construction Development", which discussed ongoing work with Green Valley Builders and the Mount Tabor Meadows development. Tom Hammett presented "Value-Added Local Forests and Forest Products: Linking Processing, Harvesting and Marketing Certified Building Products in Southwest Virginia", which included Tom's work with the Blue Ridge Forest Cooperative (BRFC). Daniel Hindman presented "Green Building Education Efforts at Virginia Tech", describing the Green Engineering minor, classes in Wood Science which discuss sustainability and the plans for the new Housing and Wood Structures Option. Other presentations discussed accessibility of green products, the concept of green building, architecture and sustainability. All talks can be found at <http://www.forestprod.org/greenbuilding08powerpoints.html>

Hammett Works on New Project in Nepal

Tom Hammett has begun work on a new Virginia Tech project in Nepal, which will take him to Nepal for several months over the next three years. The project is to organize a center of excellence at the university in memory of 23 of leading natural resource officials from Nepal and the Asia region that lost their lives in a helicopter crash in late 2006. As part of this project, he will establish a research program for VT and Nepalese faculty to support target areas, and an faculty exchange program focused on improving teaching and learning in Nepal. He is pictured here with the faculty at the Hetauda campus of the Institute of Forestry where he lead a planning meeting!



Faculty From Henan Agricultural University in China Visit The Department

As part of our efforts to internationalize our programs from time to time we host visiting delegations from overseas. 2007 was a busy year in the Department with many folks visiting and several going overseas. Henan Agricultural University in China was contacted by one of our Ph.D. students, Hezhong Wang, an alumnus of that university. He helped us set up a visit in late 2007. The Department faculty members were invited to meet the visitors and present their programs. We hosted the group at the Brooks Forest Products lab. The group also went on tours of the facilities in Cheatham and the new Bioinformatics building on campus. Tom Hammett was joined by Dr. Lance

Matheson, Coordinator of Study Abroad for Pamplin Business School and Tamim Younos of the Virginia Water Center in the CNR. We all felt that there is great potential for collaboration through student and faculty exchanges, and collaborative research projects, and have been invited to visit China in early 2009.



Think Light – Innovative Lightweight Panels Symposium.

The first Think Light – Innovative Lightweight Panels Symposium in Grand Rapids, Michigan on November 17 – 18, 2008 and November 19 – 20, 2008 (repetition of first event) is less than two weeks away. The symposium will provide theoretical background knowledge and information about lightweight panel solutions while the second day will provide a hands-on learning experience. About 100 individuals have signed up from companies ranging from Steelcase, Rubbermaid, Sauder, Herman Miller, Swedwood (IKEA) and many others. More information can be found at <http://www.woodscience.vt.edu/thinklight/> or requested by email at VTThinkLight@gmail.com.

Over the last few months, several articles on lightweight panel technology have been published to educate the industry and to promote the material and technology. Among them are:

- Think Light: Lightweight panel technology to take off. FDM Magazine. September 2008. <http://www.fdmonline.com/ViewWhitePaper.aspx?id=29770>.
- Lightweight panel technology set to take off. FDM Magazine. September 2008. pp. 58.
- Office furniture, fixtures promising for lightweight panels. FDM Magazine. <http://www.fdmonline.com/ViewArticle.aspx?id=30586>.

The last article, a FDM readership survey, demonstrates the potential for lightweight panels in the U.S. as 54 percent of respondents indicated that they would seriously consider using such panels in their products. In particular, office/hospitality furniture and store/architectural fixtures seem to hold the most promise for lightweight panels according to the respondents of the survey.

VT is very much looking forward to seeing many industry participants at the Think Light Symposium. If you have not registered or you know of individuals who should attend the symposium, there is still space available.

Recent Peer-Reviewed (Refereed) Publications by Department Personnel (since July 2008)

Note: Department personnel publish a total of about 35 peer-reviewed papers in scientific journals each year.

1. Buehlmann, Urs, Xiaoqiu Zuo, and R. Edward Thomas. 2008. Performance evaluation of the least-cost lumber grade-mix solver. *Wood and Fiber Science* 40(3):427-435.
2. López-Suevos, F. and C.E. Frazier. 2008. Wood-adhesive interactions in a PVAc latex. *Holzforschung* 62(4):468-471.
3. Roman, Maren, Annett Kaeding-Koppers, and Peter Zugenmaier. 2008. Mixed-dimer formation in binary systems of 4-substituted benzoic acids and structure considerations. *Canadian Journal of Chemistry* 86(6):525-532.
4. Lin, Zhiyuan, Scott Renneckar, Daniel P. Hindman . 2008. Nanocomposite-based lignocellulosic fibers I. Thermal stability of modified fibers with clay-polyelectrolyte multilayers. *Cellulose* 15(2):333-346.
5. Bonsi, Richard, A. L. Hammett, and Bob Smith. 2008. Eco-labels and International Trade: Problems and Solutions. *Journal of World Trade* 42(3):407-432.
6. Bonsi, Richard, D. R. Gnyawali and A. L. Hammett. 2008. Achieving sustained competitive advantage in the forest products firm: The importance of the resource-based view (RBV). *Journal of Forest Products Business Research*. Volume 5, Article No. 3 (Online peer reviewed journal: www.forestprod.org/jfpbr-online.html) 5(3):1-1.
7. Johnson, R.K., A. Zink-Sharp, S.H. Renneckar, W.G. G lasser. 2008. Mechanical properties of wetlaid lyocell and hybrid fiber-reinforced composites with polypropylene. *Composites Part A: Applied Science and Manufacturing* 39(3) 470-477.
8. Parhizkar, Omid and Robert L. Smith. 2008. Application of GIS to estimate the availability of Virginia's biomass residues for bioenergy production. *Forest Products Journal* 58(3):71-76.
9. Buehlmann, Urs, D. Earl Kline, Janice K. Wiedenbeck, and Robert Noble, Jr. 2008. Validation of the Standardized and Simplified Cutting Bill. *Wood and Fiber Science* 40(2):202-213.
10. Lihra, Torsten, Urs Buehlmann, and Robert Beauregard. 2008. Mass customization of wood furniture as a competitive strategy. *International Journal of Mass Customization* 2(3/4):200-215.
11. Perkins, B., R. L. Smith and B. H. Bond. 2008. Solid wood and residue yield analysis of small-diameter red oak logs. *Forest Product Journal* 58(1/2):97-100.
12. Perkins, B., R. L. Smith and B. H. Bond. 2008. . 2008. Solid wood and residue yield analysis of small-diameter red oak logs. *Forest Product Journal* 58(1/2):97-100.
13. Perkins, Brian, Robert Smith, and Brian Bond. 2008. Case Study of the Economic Feasibility of a Red Oak Small-Diameter Timber Sawmill and Pallet-Part Mill. *Wood and Fiber Science* 40(2):258-270.
14. Buchanan, C.M.; Buchanan, N.L.; Edgar, K.J.; Little, J.L.; Ramsey, M.G.; Ruble, K.M.; Wachter, V.J.; Wempe, M.F. 2008. Pharmacokinetics of Saquinavir after Intravenous and Oral Dosing of Saquinavir-Hydroxybutenyl-beta-cyclodextrin Formulations. *Biomacromolecules* 9(1):305-313.
15. Buehlmann, U., J. K. Wiedenbeck, R Noble, and D. E. Kline. 2008. Creating a Standardized and Simplified Cutting Bill Using Group Technology. *Wood and Fiber Science* 40(1):29-41.
16. Wempe, M.F.; Wachter, V.J.; Ruble, K.M.; Ramsey, M.G.; Edgar, K.J.; Buchanan, N.L.; Buchanan, C.M. 2008. Pharmacokinetics of Raloxifene in Male Wistar-Hannover Rats: Influence of Complexation with Hydroxybutenyl-beta-cyclodextrin. *Int. J. Pharm* 346(1-2):25-37.