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INSIDE VT WOOD

News From Paul Winistorfer

- Thanks to our graduate students for hosting our department coffee hour last Friday! We had a great turn out and good conservation. Special thanks to Amy Jahnke for taking the initiative to organize this event. See the group photo below.
- Our corrected graduate student seminar schedule for this week is Tim Stiess, Ph.D. candidate working with Dr. Earl Kline. His seminar is titled 'Information Flow in the Hardwood Supply Chain'. Seminar meets at 9:00 am on Friday in the Brooks classroom.
- We have set tentative dates for Wood Week 2008 - the week of September 15-19, 2008. Hold these dates and see the tentative schedule below.
- Virginia Tech Wood Science - Wood Industry Student Placement Program

'Find the Best - Hire the Best'

The department is launching a new student placement and industry recruiting program beginning in February. A new website will include resumes of our students (undergraduate and graduate) and post doctoral scientists seeking internships, summer employment and full time employment. As well, the site will include a registration gateway so that the industry can post placement opportunities directly to our site. We are working on the site currently and will have it operational in February. This initiative supports our vision to 'bring the North American wood and fiber industry to Virginia Tech - for our students and all majors'. We will promote this new program extensively throughout the campus and the North American industry, and use it as a tool to engage more partners in our Wood Week 2008 Career Fair.

- I will participate in the Governor's Career and Technical Academies one-day workshop for grantees in Richmond on Wednesday. Our partners at Halifax County Public Schools and the Southern Virginia Higher Education Center are participating in this organizational meeting for those awarded funds recently from the Governor's special RPF under the STEM (Science, Technology, Engineering and Math) umbrella. \$500,000 was provided to the State of Virginia by the Gates Foundation, and our collaborative proposal in Halifax County was one of the funded proposals. We are working toward an academy at Halifax Public Schools that will include a wood science component. We will have the opportunity to spend time with the Honorable Governor Kaine, state Department of Education officials and the Virginia STEM Coordinator.

- Thursday I will participate in the ribbon cutting in Danville of a major European wood products manufacturer establishing a North American manufacturing base in Danville. Danville and state economic development staff, as well as the Governor will participate. Collaboratively, our efforts in Southside are in concert with other activities in the region, and our educational pathways initiative seems perfectly timed. Our partners in Southside continue to enthusiastically support and work toward our common vision of creating a regional center of excellence in globally competitive wood products manufacturing.
- Please mark your calendar for March 13 and plan to participate in the one day conference in Danville Virginia at the Institute for Advanced Learning and Research. The conference is titled “The Southern Virginia Forest Products Initiative” and is being hosted by the Southside partner group. See the program information below. Participation by our department is encouraged and we are arranging for van service to Danville for those interested in attending. Don’t miss the opportunity to tour the new Swedwood plant!
- The Virginia Forest Products Association is celebrating their 50th anniversary February 15-17th at Kingsmill Resort in Williamsburg, Virginia. Contact Mike Washko at VFPA for registration information at vfpa.mike@att.net or by phone at 804-737-5625. Drs. Earl Kine and Brian Bond are presenting at the Saturday morning technical program.

Hey Hey Hey Its Tee Shirt Time

All Wood Science and CNR Students, Faculty, Staff, Family and Friends Wood Science tee shirts are now on sale at Brooks and Cheatham Hall (Rm. 230). Flyers will soon be posted at Brooks, in room 230 and the downstairs office window at Cheatham. These flyers will include the following information:

- Price - \$12.00 Cash or Checks (made out to the “FPS Society”)
- Sizes - M, L, XL, 2XL, 3XL
- Purchase Location - Brooks and 230 Cheatham Hall.

These shirts are selling fast so get them before they’re gone.

Department Graduate Students Host Department Coffee Last Friday—Thanks!



February 8, 2008. Graduate students in our department come from 8 countries: Bolivia, China, India, Ghana, Korea, Mexico, Senegal and the United States. Currently, 35 graduate students are enrolled in our program.

TENTATIVE

Wood Week 2008

September 15-19, 2008

September 15-19, 2008
WOOD WEEK 2008

Monday
September 15th

Department welcome back to school Department back picnic 5:00 - 7:00 pm Horticulture garden - Hahn Pavilion

Keynote Speaker Kicks Off Wood Week 7:00 pm

Tuesday
September 16th

Wood Magic Show - Brooks Center

Wednesday
September 17th

Marketing Center Advisory Board meets during day

Scholarship Recognition and Reception Program at the Inn at Virginia Tech 6:00 PM

Thursday
September 18th

Career Fair - Tent on Drillfield

Informal dinner for anyone staying overnight.

Friday
September 19th

No activities

Green Building and Wood Science at Virginia Tech

By Daniel Hindman

On January 31, 2008, several members of the Department of Wood Science met to discuss the topic of green building. Participants included Phil Araman, Kevin Edgar, Linda Caudill, Bob Smith, Matt Winn and Daniel Hindman. The purpose of this meeting was to gauge interest in green building in the Wood Science and Forest Products department and start to think about a strategy for approaching this issue. Specifically, we were looking to test the waters and gauge interest of the department and try to capture what unique contribution to the green building discussion our department can add.

The topics of sustainability and green engineering are almost constant buzz-words in the media today. People are concerned about the cost of resources, where future resources will come from and how to provide resources for an ever expanding population. Green building is another version of the old slogan 'think globally, act locally'. Many people in industry, construction, government and academia are questioning what effect choices about manufacturing, construction and material use have on the environment and the potential of the environment to sustain humans.

Sustainability and green building are difficult terms to define and are often defined by individual users or situations. One definition of sustainability that I have found useful is from Kibert (Sustainable Construction: Green Building Design and Delivery, 2005), sustainability is the ability to satisfy "needs without diminishing the chances for future generations." This definition is rather broad and non-descript as to what is needed or how this satisfaction should be achieved.

My personal definition for green building addresses three areas:

1. Environmental concerns - Environmental concerns are probably the most noticed area of green building, where product users are encouraged to think about where the product came from, how much energy it uses and how it will be disposed of. This area includes the life cycle analysis data and information on embedded energy.
2. Environmental health and safety – In the last 30 years, the rates of allergies, asthma and other respiratory ailments has skyrocketed. Some people have been diagnosed with severe allergies to volatile organic compounds and chemicals used in construction. Also, the issues of mold and moisture transfer in buildings are important to this area. Creating buildings which are safe and do not cause injury to occupants is an important consideration.
3. Energy efficiency and constructability – In most buildings, the greatest use of energy is during the life of the building, including heating/cooling and electrical systems. One of the best ways to change the energy requirements of structures is to reduce the energy use by creating a more energy efficient structure. This topic includes the study of thermal and moisture transport through the structure. Energy efficiency is also influenced by the proper use of construction methods in the initial assembly of the structure.

The discussion group identified several areas of study and research which directly apply to current and future work being performed in the Wood Science and Forest Products department. Several of the topics mentioned included:

- Study of recycling materials and recovery efforts – One way to change the life cycle analysis of a product is to recycle, reuse or transfer the embedded energy into another use (such as a biomass digester or gasifier).
- Concern over chemical products used in wood materials – There is great concern over the use of various chemical products including formaldehyde, fire-retardant treatments and preservative treatments for exterior wood. There are still many questions related to the use of these materials and possible alternatives.
- Perceptions of "Green" – Little is known about the marketing or purchasing decisions that homeowners who purchase homes from green certified builders go through. How does this decision process change?
- Improved Construction Practices – In the third bullet point of the green building definition, the construction of the home is directly related to its structural and thermal performance. Demonstration of alternative methods or development of educational tools and materials is essential to help builders succeed.
- The Image of Wood Products – Due to certain market factors, the image of wood as part of green building is tarnished. While there are many reasons for using wood that correspond with green building objectives, many builders and certification groups do not perceive wood in a positive light.

These possible directions of work in green building are very exciting because many of them remain untapped. This list of ideas shows that there are ample areas of study in green building where Wood Science and Forest Products can become involved that are unique to our program.

Based upon these ideas, the group had a very good discussion of why all of us were here and how we could contribute. One theme which was brought up that has been talked about by others is that the ideas of green building and sustainability also require some deeper philosophical changes. While the mission of the College of Natural Resources includes sustainable use of materials, how do individual faculty members express this message through their teaching, research and service? It is easy to point to programs on campus and direct students to other sources, but the real change and commitment to this concept will come when the ideas of sustainability and green engineering are evident in our own department's work.

Currently, Phil Araman and myself are pursuing a project with Green Valley Builders (<http://greenvalleybuildersinc.com>) who are currently building a new development on the corner of Mt. Tabor and Happy Hollow roads. The homes are using a green building system called Earthcraft, which has a heavy emphasis on energy efficiency and as part of the finished house is able to give the homeowner an estimate of energy savings due to the green building improvements. The current program involves recycling of wood composite materials from the site. Other ventures are possible in the future, with the hope to use the construction site as a teaching tool or laboratory to explore different green building concepts.

In conclusion, the future of green building for the Wood Science and Forest Products department is very strong. Our combination of technical expertise that revolves around wood and the various issues of its use give us a unique perspective which has not been previously tapped or discussed. There is plenty of room for further discussion and incorporation of all of the research areas currently considered under the umbrella of Wood Science and Forest Products.

Currently, the group is drafting a statement of ideas and future meetings will be announced. Again, all faculty, graduate students and undergraduate students are welcome to attend.

Lunch and Learn – February 19th

Join Ralph Rupert, Director of the Center for Unit Load Design, for an informal brown-bag lunch and learn discussion and demonstration of the new Data Tech cutting table, a recent gift from the International Corrugated Packaging Foundation (ICPF). The refurbished table, valued at \$50,000+, will be used this spring in the Paper and Paperboard Packaging class to give students expertise needed in the packaging industry. The students will also learn Artios (previously donated by Esko Graphics) - a CAD software used in industry to design packaging. Once students create structures in Artios a file is then exported to the cutting table for processing. See how it works! A hands-on demonstration!

Bring your lunch and a drink to the Brooks classroom 12 noon February 19.

Tons of Carbon Relocated to Blacksburg, VA for Long-Term Storage

Blacksburg, VA - February 11, 2008. Tons of carbon have been brought to Blacksburg and a storage pile three stories high and hundreds of feet long has been discovered at the corner of Plantation Road and Prices Fork Road, bordering the 460 bypass. It is estimated that as much as multiple hundreds of tons of carbon will be stored at this location for the next 50 years or more without concern for the inhabitants who will soon occupy the site, recently renamed Smith's Landing. The carbon likely originated principally from coal-burning fossil fuel plants, various models of the 1957 Chevrolet Belair Sport Coupe 2 Door Hard Top, a 1961 Rambler American, thousands of 1985 model Dodge minivans, thousands of Briggs and Stratton 3 hp lawn mower engines, and millions of other internal combustion engines produced over the past 50 years. The carbon was collected by trees throughout North America. The carbon was transported to Virginia in solid form from distant sites, via rail, tractor-trailer, and local distribution vehicles. Additional carbon was emitted during this trail of transportation logistics, and the future fate of this carbon is unknown, but it is blowing in the wind until captured by a lake, stream, soil, or trees and green plants in the near future. No reward is currently being offered for capture of this runaway carbon, and 2008-2009 proposed federal

budgets are being slashed for those agencies charged with capturing carbon (the U.S. Forest Service and Department of Interior). The carbon at Smith's Landing will soon be covered with synthetic and cement-based materials making the tons of carbon transported to the site unrecognizable for the next 50 years.



New Faculty Workshops Sponosed by VT of Research Office

Strengthening Your Grant Proposal I: Building In Quality Outreach And Diversity Components

Friday, March 14, 3 – 5 p.m., Torgersen 3100

Education, outreach and diversity are key review criteria at NSF and other funding agencies. This workshop will identify VT resources--people and programs--that researchers can use to build these critical components more effectively into their grant proposals.

Strengthening Your Grant Proposal II: Adding High Quality Computer Visualization

Friday, March 21, 3 – 5 p.m., Torgersen 3100

Computer visualization can add significant strength to your project's research design. This workshop will feature practical ways you can build sophisticated visualization techniques into your grant proposal, adding to its intellectual merit as well as the proposal's immediate visual appeal.

These workshops are offered through the Faculty Development Institute. To register: Go to www.fdi.vt.edu, click on "Spring Short Courses," scroll topics to "Research Administration," and enroll. Questions? Contact Bob Porter, Proposal Development Team, reporter@vt.edu, 231-6747

Interested in Carbon Credits?

February 5th we had a meeting in Toms Brook, VA discussing carbon credits and payments for environmental services. If you're interested, many of the presentations from this event are available at the following website: <http://connect.ag.vt.edu/vacarboncredits>. At this site you can log in as "Guest" and download the Powerpoints. This information should be accessible through the end of this month.

John Ignosh, Agricultural Byproduct Utilization
Northwest District Office
Virginia Cooperative Extension
2322 Blue Stone Hills Drive #140
Harrisonburg, Virginia 22801
Office 540/432-6029 Ext. 108
Fax 540/432-6251

The President's 2009 Request for Programs Under the Interior & Environment Subcommittee

Rep. Norm Dicks Comments on the FY 2009 Budget Request for Programs in the Interior and Environment Subcommittee Jurisdiction

Washington, D.C. Feb. 4 — Following the submission of the FY 2009 federal budget to Congress, Interior and Environment Appropriations Subcommittee Chairman Norm Dicks made the following comments about the budget's impact on accounts within the jurisdiction of the subcommittee:

Overall

The President's 2009 request for programs under the Interior & Environment Subcommittee jurisdiction is a serious disappointment. It ignores our moral and treaty obligations to Native Americans, devastates the management of our National Forests and dramatically reduces funding for critical environmental and conservation priorities. The \$25.4 billion requested is \$1 billion below the 2008 level and \$1.6 billion below the level required to maintain current service levels for these programs.

While there are a few bright spots, including the continuing commitment to our national parks, the small number of positive proposals can not mask the fact that the overall budget request is an unmitigated disaster and will require major revisions by our Committee and the Congress.

Native American Programs

The President's request for Native Americans takes Indian children out of their schools, turns away thousands of Indians seeking healthcare, and turns its back on Indian country. The request eliminates Johnson O'Malley education assistance funding and the urban health clinics program, reduces early childhood development programs, reduces scholarships and adult education, eliminates funding for tribal technical colleges, eliminates housing improvement funding, and reduces welfare assistance dramatically.

The Bush Administration's budget proposal for the Indian Health Service would force the agency to absorb \$150 million in costs, resulting in staffing shortfalls and fewer available services. If enacted, this budget would cut healthcare services to people who are already grievously underserved.

National Forest System

The budget request for the Forest Service is especially irresponsible and can not be implemented.

It would cause real harm to our 193 million acre national forest system, substantially reduce firefighter preparedness, slash important science programs and nearly eliminate cooperative forestry programs that have a proud, 60 year history of collaboration with the States. All told, this budget request reduces operations funding for the Forest Service by 16% and would require the elimination of 2750 full time staff. The only bright spot is a large increase in emergency wildfire suppression funding, but by eliminating and reducing fire staff preparedness, this budget would guarantee large, expensive wildfires again next year.

Here are just a few of the reductions proposed in this budget affecting the Forest Service accounts:

- Forest Service research, -\$24.9 million (\$201 million) reduces core research programs affecting forest and rangeland ecosystems and forest products
- Forest Service forest health, -\$43.7 million (\$55 million) guts State forest health program by 78% and reduces federal lands treatments by 17%
- Forest Service state fire assistance, -\$20.6 million (\$60 million), restricts cooperative actions with States and harms implementation of national fire plan
- Forest Service, forest stewardship, -\$24.5 million (\$5 million), guts state cooperative forestry program by 83%
- Forest service, urban forestry, -\$22.7 million (\$5 million), guts urban and community cooperative program by 82%
- National forest system, -\$125 million, (\$1.344 billion), reduces the operations and management of the 193 million acre system and requires reduction of 1183 FTE's (over 10% of the workforce)
- National forest trail system, -\$26.7 million (\$49.7 million), reduces care for the largest trail system in the nation by 35%
- National forest road system maintenance, -\$17 million (\$117 million), reduces care of the road system so only 20% of the roads will get any maintenance
- Forest Service wildfire preparedness, -\$77.4 million (\$588 million), reduces sorely needed fire operations by 12% and requires loss of 446 FTE's out of a total of 5578 FTE's last year

Conservation Programs

The President's request for conservation and environmental protection programs eviscerates funding for many critical programs. The \$54 million request under the Land and Water Conservation Fund to protect and preserve sensitive lands threatened with development is 74 percent below the already reduced

2008 funding level. Funding for the Clean Water State Revolving Fund to help deal with water and sewer infrastructure needs throughout the United States is reduced by another \$134 million to a level 60 percent below the level 4 years ago. This reduction ignores the \$388 billion need for this assistance documented by the EPA. Mitigation and adaptation of Climate Change is the single greatest challenge of our generation. This budget would have us cut \$30 million from critical Climate Change programs at EPA and USGS.

<http://www.house.gov/dicks/news/fy09budgetview.htm>

Spring 2008 Seminar

Seminar meets in the Brooks Forest Products Classroom

Date-Friday 9:00 AM	Presenter	Topic
January 18	Brian Perkins Ph.D. Candidate	Modeling Factors that Influence Firm Performance of Eastern Hardwood Lumber Manufacturers
January 25	John Bouldin Ph.D. Candidate	Defects in engineered wood products in residential construction
February 1	Thammarat Mettanurak M.S. Candidate	Effect of Suppression and Release on Compression Parallel to Grain Property for Small-sized Yellow-poplar (<i>Liriodendron tulipifera</i> L.) Specimens
February 8	Omid Parhizkar Ph.D. Candidate	Improving the international competitiveness of U.S. sawmills to Middle Eastern markets: An assessment of market segments
February 15	Tim Stiess Ph.D. Candidate	Information Flow in the Hardwood Supply Chain
February 22	Jim Bisha M.S. Candidate	The effect of load stabilizer selection on load slip within unit loads
February 29	Alex Hagedorn Ph.D. Candidate	Identifying pallet size incompatibilities within the global supply chain
March 14	Omar Espinoza M.S. Candidate	Quality Measurement in a Wood Products Supply Chain
March 21	Hezong Wang Ph.D. Candidate	Polyelectrolyte complex formation between cellulose nanocrystals and chitosan
March 28	Gi Young Jeong Ph.D. Candidate	Tensile Properties of Loblolly Pine Strands Using Digital Image Correlation and Stochastic Finite Element Method
April 4	Braden White M.S. Candidate	Verification of Finite Element Model Estimates of Wooden Pallet Performance
April 11	Angela Zhou M.S. Candidate	Nano-coating on wood veneers for adhesion and durability
April 18	Ji Youn Yoo M.S. Candidate	Quantitative Analysis of the Static Stress Distributions across Pallet Decks for the Unit Loads of Selected Packaged Product Forms and Stacking Patterns
April 25	Garrett Norman M.S. Candidate	Just-In-Time Manufacturing System Design for Rough Mill Systems: A Case Study

April 30 classes end

For more information please contact the department at 540/231-8853

The Southern Virginia Forest Products Initiative

March 13, 2008

Institute for Advanced Learning and Research — Danville, Virginia

Program Agenda

Partners & Supporters

- Danville Community College
- Danville Public Schools
- Halifax County Schools
- Morgan Lumber Company
- Pittsylvania County Schools
- Southern Virginia Higher Education Center
- Virginia Forest Products Association
- Virginia Tech – College of Natural Resources and Department of Wood Science and Forest Products

Special Thanks

Special thanks to the Virginia Forest Products Association for providing financial resources in support of this conference and the vision to establish WoodLINKS sites in Virginia.

Congratulations

Congratulations to the Southern Virginia Higher Education Center in association with Halifax County Schools and Danville Community College in association with Danville Public Schools and Pittsylvania County Schools in recognition of establishing the first two official WoodLINKS USA sites in the state of Virginia.

8:30-9:00 a.m.	Registration/Coffee Pastries Fruit
9:00-9:15 a.m.	Welcome: Purpose For The Conference, Why We Are Here, How We Got Here, and Where We Are Going. Conference Hosts and Partners
9:15-10:00 a.m.	Workforce Needs, Recruiting, the Forest Products Industry in Virginia Mike Sexton - Virginia Economic Development Partnership Richmond, Virginia and Why Danville? Bengt Danielsson, President of Swedwood North America
9:45 – 10:00 a.m.	Coffee Break
10:00-11:00 a.m.	Evolution of the Secondary Wood Products Manufacturing Industry Duane Griffith - Manager, Stiles Education Grand Rapids, Michigan and WoodLINKS USA – An Industry-Education Partnership and The Evolution of the Wisconsin WoodLINKS Model Steve Ehle - Wisconsin Coordinator, WoodLINKS USA and Editor, Wood Digest magazine Madison, Wisconsin
11:00-11:30 a.m.	Panel Discussion with Morning Presenters
11:30-12:45 p.m.	Lunch and Luncheon Address: The Evolution and Impact of the West Ottawa High School WoodLINKS USA Program Eric McCourt, WoodLINKS USA Teacher West Ottawa High School Holland, Michigan
1:00-1:30 p.m.	The Advanced Wood Products Laboratory at Georgia Tech Karl Brohammer, Director Atlanta, Georgia
1:30-3:00 p.m.	The Virginia Wood Science and Advanced Wood Products Manufacturing Model – Incorporating the Best National Practices and How We Move Forward as Partners in Virginia Dr. Paul Winistorfer, Professor and Department Head Department of Wood Science and Forest Products College of Natural Resources Virginia Tech – Blacksburg, Virginia Panel Discussion with ALL Presenters
3:00 – 5:00 p.m.	Tour of Swedwood-Danville Plant George Patmore, Plant Manager, Swedwood-Danville Optional for participants but you must pre-register for this tour

The Southern Virginia Forest Products Initiative

March 13, 2008

Institute for Advanced Learning and Research — Danville, Virginia

Partners and Supporters

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Statement of Purpose

- We seek to develop the human resource to enable a globally competitive and sustainable wood and renewable materials industry in Virginia.
- Our partnership is a collaboration of educational providers and business and industry partners who envision the future pathways to reach the potential of Virginia's human resource as the most important element of our economic and natural resources sustainability.
- We are creating educational pathways to create and retain the workforce of tomorrow in Virginia today - to secure our economic and natural resources sustainability for tomorrow.

Benefits

- Create a seamless educational and career pathway for high school and the adult learner that spans K-12 to the University.
- Respond to the changing workforce needs of the business communities.
- Capitalize on Virginia's natural resources, industrial base, and strengths of our educational providers.
- Contribute to the human resource, natural resources, and economic development of Southern Virginia.
- To capitalize on synergisms among the growing partnership as a key strategy for moving forward.

Who Should Attend

- Human Resource Directors
- Wood Industry CEOs and Senior Leadership
- Higher Education Institutions, Administrative Leadership and Faculty
- Public Education Officials, School System Administration and Career and Technical Education Teachers
- Economic Development Specialists
- Government and Community Leaders