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27	28	29	30	31	1	2

INSIDE VT WOOD

News From Audrey Zink-Sharp

Another successful semester is winding to a close with celebration of graduations and the holidays. Also, Inside VT Wood will resume publication in the new year, but until then, I want to wish everyone a very Happy Holiday Season and New Year. Here are some events and items of importance:

- Update on curriculum revisions:
 - 4 New options approved by CNR SPAC, sent out for 15-day review
 - 9 New courses and 1 revised course (name change) approved by CNR SPAC, sent out for 15-day review
 - Revised Wood Science minor approved by CNR SPAC, sent out for 15-day review
- An Academic Program Review (APR) of our undergraduate and graduate programs was completed by V.P. and Dean for Graduate Education and V.P. and Dean for Undergraduate Education
 - Recommendation was that our programs passed the review and they should be continued until the next APR scheduled for 2016
- Recent graduate student completions or scheduled defenses
 - Hezhong Wang Ph.D., Jung Ki Hong M.S., Gavin Wherry M.S., Rebecca Buck M.S., Zhiyuan Lin Ph.D. (Dec 16th)
- Dwight Shelton's presentation to the Department Heads' Council available:
 - http://www.provost.vt.edu/dhs_council.php

You are Invited to Fall Commencement—Friday, December 18, 2009

On behalf of our graduating students, their parents, relatives, and friends, the University Commencement Committee warmly and enthusiastically invites you to attend the Fall Commencement Ceremonies on Friday, December 18, 2009. The University Ceremony begins at 11:00 a.m., followed by the Graduate Ceremony at 3:00 p.m., both in Cassell Coliseum.

2009 Fall End-of-Semester and Winter Break Operational Closures, Amended Hours

Various campus offices and entities will either be closed, or operating on adjusted schedules at the end of the fall 2009 semester and over the winter holiday. The last day of classes for the fall 2009 semester is Dec. 9. The university will be closed on Dec. 24-25, 2009, and Jan. 1, 2010. The academic spring 2010 semester begins on Jan. 19.

Fall Graduates Asked To Unsubscribe from VT Alerts

Congratulations to all graduating seniors on the successful completion of their Virginia Tech academic career! As you prepare to leave Blacksburg, please consider unsubscribing to VT Alerts. Doing so is very important. By removing contact information on individuals who no longer need to receive emergency notifications, VT Alerts will be able to deliver messages faster to those who still need to receive those messages.

To unsubscribe, visit the VT Alerts website and click on the “Subscribe Now!” link. Once logged in (using your Virginia Tech PID and password), click on the “Unsubscribe from VT Alerts” link at the bottom of the web form. You will be asked to confirm your request to unsubscribe.

For those students who will return to campus this spring, please take this opportunity to update your account and check the numbers and e-mail addresses you currently list. Questions may be directed to 4Help at 231-4357. Congratulations to our fall graduates and thank you for updating your VT Alerts account.

Attention Wood Science and Forest Products Undergraduate Students:

2010-11 academic year FAFSA available Jan. 1; priority deadline March 1

From: Office of University Scholarships and Financial Aid

On January 1, 2010, students should begin completing the Free Application for Federal Student Aid (FAFSA) for the 2010-11 academic year. Virginia Tech’s priority deadline is March 1, 2010. This is a change in the deadline from previous years. Early application is critical for students to access all available funds. Estimated income tax information may be used in the initial completion of the application, with corrections being made when complete income tax data is available. Students and parents are welcome to contact University Scholarships and Financial Aid (USFA) counselors for assistance in completing the FAFSA. USFA is located at 200 Student Services Building, <http://www.finaid.vt.edu>, finaid@vt.edu, or, 540-231-5179.

WBC Holds NSF Planning Meeting in South Lake Tahoe

The Wood-Based Composites Center held a National Science Foundation Planning Meeting in South Lake Tahoe, California on October 1-2, 2009. Industry representatives from 19 companies participated. Faculty from each of the four WBC Center Partner Universities (Oregon State, the University of British Columbia, the University of Maine and Virginia Tech) presented research project proposals and participated in industry-led discussions about research needs in the area of wood-composites.



The WBC was awarded an NSF planning grant earlier this year in support of its efforts to form an Industry/University Cooperative Research Center, or I/UCRC. In its nearly 30 year history, the I/UCRC program has provided NSF

support for industry-sponsored, university-based research centers, providing significant leveraging opportunities for fundamental and applied research. I/UCRCs are especially supportive of multi-university centers such as the WBC. The WBC leadership team, including Director Chip Frazier (VT), Co-Director Fred Kamke (OSU), and Managing Director Linda Caudill were assisted during the meeting by I/UCRC Program Director Babu DasGupta and NSF Evaluator Eric Sundstrom.

Two Wood-Based Composites Center Fellows Place in International Poster Competition

Josh Hosen was recently awarded first place in the student poster competition of the International Conference on Wood Adhesives 2009 in S. Lake Tahoe, California. A WBC Center Fellow, the M.S. candidate impressed the panel of judges with his poster entitled “Dynamic Mechanical Analysis: A Novel Method to Screen Potential Wood Adhesive Coupling Agents”. A second WBC Center student, M.S. candidate Jesse Paris, was awarded second place for his poster “Carboxymethylcellulose Acetate/ Butyrate Water-based Dispersions as Wood Adhesives”. Professor Chip Frazier is advisor to both Josh and Jesse, who received cash awards for their efforts. Other Virginia Tech students participating in the conference included Sudip Chowdhury, Rob Haupt and Dakai Ren. Along with Professor Frazier and Post Doctoral Associate James Fabiyi, Virginia Tech was well-represented with outstanding technical presentations and posters.



Josh Hosen presenting his poster at the International Conference on Wood Adhesives 2009 in S. Lake Tahoe, California.

Henry Quesada presents at the Decision Science Institute Conference



Dr. Henry Quesada, faculty in manufacturing and business management at the Department of Wood Science and Forest Products, participated as speaker at the 40th Decision Science Meeting in New Orleans, LA. The conference is the main event for the members of the Decision Science Institute, a professional organization of academicians and practitioners interested in the application of quantitative and behavioral methods to the problems of society. More than 1074 submissions were received and approved for this Conference to be presented in more than 27 tracks with over 400 regular sessions.

Dr. Quesada presented results of a research-peer-reviewed article that analyzed the internal validity of a model used to recognize outstanding performance in manufacturing and service industries. A number of Costa Rican firms from different industry sectors were used as a sample, including

wood products industries. The research team used multivariate statistical techniques to validate the model and test the influence of some of the critical factors being evaluated by model. Findings of the research reinforces the concept that good leadership and strategic planning have a heavy influence on other organizational processes. For more information please contact Dr. Henry Quesada at quesada@vt.edu.

Manufacturing Systems Team Visits Boeing

On November 20, 2009 the Department's manufacturing systems team visited Boeing's Rotocraft unit in Philadelphia. Boeing, on this 355 acre site, maintains 2.75 million square feet of manufacturing and over 1 million square feet of office space producing Chinook helicopters, Osprey rotocrafts, combat and logistics support systems, among other products. The site employs 4,600 employees. Lean systems and continuous improvement efforts were the focus of the visit and Gerald Garten, Sr. Manager, Manufacturing Research and Development (MR&D) and Bob Root, MR&D Team Member of the Osprey rotocraft division, lead the team on an extensive plant tour giving an overview of the production process. They showed the sophisticated systems Boeing uses to maintain and improve operation efficiency and effectiveness while guaranteeing product quality and employee safety.



VT's Department of Wood Science and Forest Products manufacturing systems team at BOEING in Philadelphia, PA. Pictured first row left to right: Adrienne Andersch, Becky Buck, Kevin Knight; second row left to right: Mathias Schmitt, Earl Kline, and Garrett Norman.

The Bell Boeing V-22 Osprey, a tiltrotor aircraft used by the U.S. Marines and the U.S. Navy, is capable of taking off and landing vertically while also being able to fly like a turboprop airplane with high speed in high altitudes when its engines are moved forward. Due to problems during its initial stage and its high costs, the \$58 million per piece plane was almost removed from the procurement list of the U.S. military in the early 2000s. Thanks to the commitment of Boeing's employees, the program was turned around and ramped-up to full production from 11 to 48 units which is expected to begin this year. Lean systems were critical to all aspects of the Osprey's successful turnaround.



The Bell Boeing V-22 Osprey, whose fuselage is assembled in BOEING's Philadelphia site (source: <http://www.flightglobal.com/airspace/photos>).

During the four-hour tour, the VT manufacturing systems team was provided with numerous details of the lean systems in place at BOEING's Osprey assembly line. For example, small components for assembly come in pre-formed boxes where each part necessary for a given assembly station has a clearly marked spot. An assembly-line worker, upon opening the delivery box, is immediately able to check that a complete set of assembly materials has been delivered and, due to forming of the packaging foam, if the materials are

the correct items. Tools, caps, plastic covers, foam parts, and any other item that could possibly negatively influence the performance of the aircraft when in service, are kept track of with simple lean counting systems. A plane can

only move to the next assembly station once all items are accounted for. The team was also briefed about BOEING Philadelphia's moonshine team, a dedicated team of lean practitioners operating independently throughout BOEING's operations working on Lean and Continuous Improvement (CI) projects. The moonshine team tackles tasks ranging from workplace improvements all the way to assembly line re-organizations using lean principles, creativity, and innovation. Another interesting discussion was held about the challenges BOEING faces with its acclaimed Dreamliner (787) program. While the program's problems are real, BOEING also uses them as an opportunity to learn more about successful systems integration for future projects. The VT Manufacturing Systems team walked away with new motivation to continue its work and with a "Thank You" to Mr. Garten from BOEING who made this unique opportunity possible.

5S Woodshop Event

On November 3-5, 2009, Urs Buehlmann and Earl Kline worked with David Jones to lead our first Official Departmental "Continuous Improvement Event". The event was focused at improving Woodshop "5S". 5S is a workplace organization system based on lean thinking principles that stands for Sort, Straighten, Shine, Standardize and Sustain. The scope of this event was to:

- Organize the woodshop area for an efficient, safe, and quality focused work environment
- Create standard best practices for our WOOD 1234 and Wood Enterprise Institute teaching and our many research support needs.
- Implement visual work systems for better communication and to sustain the effort

Many thanks to the team... Rick, Kenny, Angie, Will, and Jim for a lot of hard work well done! As the name "Continuous Improvement" implies, this event is the first of several improvement events planned for our department. So stay tuned...

THE TEAM



Earl, Rick, Kenny, David, Angie, Will, Urs, Jim (not pictured)

