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# INSIDE VT WOOD

## News From Audrey Zink-Sharp

### New Scanning Electron Microscope in the Department



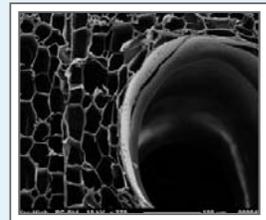
Audrey Zink-Sharp placing a specimen of balsa wood into the microscope chamber.

We have a new scanning electron microscope in our lab, a JEOL NeoScope Benchtop SEM made possible through funding from the Sustainable Engineered Materials Institute. This compact benchtop SEM has some very nice features such as auto focus, auto contrast, and auto brightness controls. It operates in either low or high vacuum mode and has three settings for accelerating voltage. Magnifications as high as 20,000X are possible and down to as low as 10X. Some of the advantages of scanning electron microscopy are increased depth of field unmatched by light microscopy, a wide area of view that makes it easy to image entire surface areas, and images that have a

three-dimensional aspect. The JEOL NeoScope also has NIKON NIS image analysis software intergrated into the image capture program. Contact Audrey Zink-Sharp, 230 Cheatham Hall, if you have research in which scanning electron microscopy could be useful.



Common house fly at 300X.



Cross-section of balsa wood at 270X

## Packaging Science Program and CULD Attend PackExpo in Las Vegas

By Bonnie Maccubbin

Ralph Rupert and Bonnie Maccubbin represented the packaging science program and the Center for Unit Load Design at PackExpo, October 5-7, in Las Vegas. The exhibit booth was located with other universities with packaging programs. The show included the full range of packaging, from corrugated board and films manufacturers to the equipment side encompassing conveyors to robotics. The show also included various packaging competitions including corrugated packaging, in which a life size motorcycle won the sculptural competition.



In addition to the show, Rupert was honored as the graduate Troll Memorial Scholarship winner at the Association of Independent Corrugated Converters banquet. He spoke eloquently about the new packaging program and its novel distribution focus within the industry, which was enthusiastically received by a crowd that was generally unfamiliar with the program. Numerous association members engaged him in conversation following the banquet regarding the program and its importance to the industry.



## Wood 2104 Principles of Packaging Visit Montgomery Regional Solid Waste Authority



Packaging professionals are tasked with containing and protecting products to prevent damage throughout the distribution process. Once products reach a store shelf, packaging is used to inform the consumer and promote sales. A package that meets these expectations is successful; however, students in the Principles of Packaging class understand there is more to the story. After products are purchased and used, the packaging that was so critical in preventing damage and promoting sales is waste. A successful packaging professional needs to understand the impact of packaging on the environment. On October 14th (sustainability week at Virginia Tech), students toured Montgomery Regional Solid Waste Authority in Christiansburg, VA (<http://mrswa.com/>). At the facility, students got an up close understanding of the types of packaging materials entering the waste stream, sorting/recycling methods, and applications for recycled materials.

*PLEASE REDUCE, REUSE, AND RECYCLE PACKAGING WASTE*

Row 1: Alex Hagedorn (Instructor), Teresa Sweeney (Education and Training Coordinator); Row 2: Julia Legard, Josh Chandler; Row 3: Tyler Matusevich, Matt Dierkes, Susie Hogan; Row 4: James Lassiter, and Russell Carr

## ReNew the New River Cleanup November 7<sup>th</sup>

Please join the Packaging Club and the Forest Products Club on Saturday, November 7, 2009 for the semiannual ReNew the New river clean up. The southern section between the inter-tube pickup and the railroad tracks get a lot of use over the summer and by November it is very trashy. Please take this opportunity to help clean it up.

This date is a non-football, non-family weekend, non-Halloween Saturday, so you have no excuse not to come help clean-up the New River.

A signup sheet is located in the lobby of the Brooks Center on Angie's desk.

Jim Bisha

President – Institute of Packaging Professionals at Virginia Tech

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## Upcoming Workshops

### Workshop: International Marketing for Forest Products Industries – October 20

The Department of Wood Science and Forest Products is organizing a workshop on International Marketing for Forest Products Industries. The event is scheduled for October 20, 2009 in Princeton, WV. The workshop is sponsored by the Wood Education Research Center, Virginia Cooperative Extension, Virginia Department of Agriculture and Consumer Services, Purdue University, and Virginia Forest Products Association. This workshop is designed to assist wood products companies from primary and secondary sectors to better understand and seize exporting opportunities. Speakers will cover aspects ranging from marketing principles to logistic issues in preparation to capture international markets will. For more information go the web site [http://www.woodscience.vt.edu/workshops/intl\\_marketing/](http://www.woodscience.vt.edu/workshops/intl_marketing/) or contact Henry Quesada at [quesada@vt.edu](mailto:quesada@vt.edu)

### Workshop: Introduction to Decision Making Techniques: Applications for Forest Products Industries – November 5

#### Workshop description:

Decision making techniques can be defined as a collection of qualitative and quantitative analytical tools that allows business and process managers to outline and analyze potential scenarios when searching for solutions given a specific problem or situation. The focus of decision making start with the data at the manufacturing level and how this data is collected manipulated or transform into valuable information for those who make decisions. Besides quantitative data, qualitative input should also be considered. Aspects such as legal issues, technology and human resource criteria are difficult to quantify so qualitative analysis should be brought into action to complement quantitative analysis.

This workshop will address the most important decision making techniques in the areas of financial management and operations research from a manager point of view. Participants in this workshop will learn that decision making is a multistep process that involves problem definition, model developing, data acquisition, solution development, solution testing, output analysis and solution implementation.

Participants will discover in this workshop that the successful use of decision making techniques will yield proper solutions that are precise, flexible, economic, reliable and easy to understand and implement. The majority of concepts and techniques are supported by examples and applications that use spreadsheets which can be adapted to their own business situation.

#### Course outline:

- Basics of decision making
- MS Excel basics
- Inventory control models
- Capital budgeting techniques
- Linear programming
- Activity based costing management
- Examples and Applications of Decision Making techniques

#### Location and Registration

Workshop is scheduled for November 5, 2009 from 8:30 am to 3:25 pm at the Virginia Tech National Capital Regional Campus at Falls Church, VA (<http://www.ncr.vt.edu/>). Workshop is FREE OF CHARGE but you need to RSVP before November 2, 2010. Coffee breaks and materials are provided but lunch is on your own. To register or further details please contact Henry Quesada at [quesada@vt.edu](mailto:quesada@vt.edu)

## Workshop: Introduction to Business Process Management – November 19

Presented by Henry Quesada, Assistant Professor of Business Management, Department of Wood Science and Forest Products, Virginia Tech

### Workshop description:

Business Process Management (BPM) is defined as an improvement framework that relies on the concept of value chain management by Michael Porter. By implementing basic principles from methodologies such as balanced scorecard, lean thinking, six sigma, total quality management, and process automation, BPM can help your organization to increase customer satisfaction levels, align your business processes with your strategy, and increase the productivity of your internal operations.

Participants in this workshop will learn what value chains are and how to recognize them within their own company. Concepts, definitions, methodologies, and information technologies that support the BPM process will be taught in this workshop. Participants will learn how to represent their value chains in the context of business process management. Also, an overview of most important requirements of BPM information technologies will be presented so participants will know what technology is most applicable to their own needs.

### Course outline:

- BPM principals: The Value Chain Concept
- Process Basics
- Business Performance
- Business Improvement Frameworks
- Tools for Process Modeling
- Information Technologies for BPM
- Examples and Applications of BPM

### Location and Registration

Workshop is scheduled for November 19 from 8:30 am to 4:30 pm at the Roanoke Higher Education Center <http://www.education.edu/>. Registration is \$35 and includes coffee breaks, and materials. Lunch is on your own. Please contact Henry Quesada at [quesada@vt.edu](mailto:quesada@vt.edu) for registration or further details.