

December 2008						
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28	29	30	31	1	2	3

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](#).

Note: Inside VT Wood will not be published again until Monday January 12, 2009.

Merry Christmas and Best Wishes for a Happy New Year from All of Us in the Department of Wood Science and Forest Products at Virginia Tech!

News From Paul Winistorfer

- Congratulations to our December 2008 graduates! **Ryan Anthony, Jeremy Duncan, Daniel Fore, and Keith Horn**. Go forth - do good - send money. It has been our pleasure to have you in our program. Best wishes in your future careers.
- A regional articulation meeting will be held Tuesday, December 16 at the Hotel Roanoke to discuss and formulate an educational pathways model that spans K12-Community College – to Wood Science at Virginia Tech. Over 23 individuals representing 6 public schools, 2 community colleges and the Southern Virginia Higher Education Center will be represented, in addition to representatives from our college and department. The vision of this initiative, now 2 years in the making, was recently published in *Hardwood Matters*, a monthly publication of the National Hardwood Lumber Association.
- The department Christmas Luncheon is Thursday, December 18th, beginning at noon at the Brooks Center. Angie Riegel is coordinating again this year. Thanks Angie!

WOOD 1234 Visits Christiansburg Businesses

The WOOD 1234 (Introduction to Wood Science and Forest Products) class visited Southland Log Homes in Christiansburg on December 4th. Matt Simmons was our host at Southland. We then drove through the bone yard with recovered timbers from old warehouses at Blue Ridge Timberwrights also in Christiansburg, VA. They are makers of timber frame homes from new and used timbers.



Visiting Ireland - Letterfrack College, the Galway-Mayo Institute of Technology

by Paul Winistorfer

The week of December 1st I traveled to Ireland to visit the Galway-Mayo Institute of Technology, and the Letterfrack campus of the Institute, to learn more of the programs in wood education offered there.



Letterfrack is located on the West side of Ireland in the region of the country known as Connemara. It is a stunning beautiful place, with lakes, hills, valleys, ocean inlets, sheep, rock walls, old buildings and very friendly and hospitable people.

Accompanying me from the United States were David Kenealy of the Southern Virginia Higher Education Center in South Boston, Virginia; Greg Porfido, COO of Mark Richey Woodworking Newburyport, Massachusetts, and; Tania Porfido, Furniture Conservator, Newburyport Massachusetts.

Our hosts for the trip were Dr. Patrick Tobin, program coordinator and Dermot O'Donovan, Department Head, and their colleagues at Letterfrack.

Programmes at Letterfrack

GMIT's programmes at Letterfrack are run in partnership with Connemara West (a community and rural development organisation based in North-west Connemara). Since 1987, the partnership has managed and run furniture courses.

The aim of GMIT, Letterfrack is to enable its graduates to contribute to, and influence, the fields of design processes and manufacture of furniture in ways that are

innovative, creative and responsive to the needs and development of a quality Irish furniture industry.

Currently, there are currently six areas of study at Letterfrack:

- [Bachelor of Science in Furniture Design and Manufacture](#)
- [Bachelor of Science in Furniture and Wood Technology](#)
- [Bachelor of Science in Furniture Conservation and Restoration](#)
- [Bachelor of Science \(Honours\) in Furniture Design and Manufacture](#)
- [Bachelor of Science \(Honours\) in Furniture and Wood Technology](#)
- [Bachelor of Science \(Honours\) in Design and Technology Education](#)

The Letterfrack program is not a conventional wood science program, but there is some overlap with course content of our undergraduate program in wood science at Virginia Tech. Students learn material properties of wood, production and manufacturing methods, optimization methods, operations management, but also gain significant knowledge and skills in design, CAD/CAM/CNC, fabrication, finishing and other areas of woodworking.

There are 250 students enrolled in this course of study at Letterfrack. Students are required to do a placement in their last year. This placement (internship) puts students in real businesses, and a number of Letterfrack students have had recent placements in the U.S.

The furniture conservation program is a unique addition to the Letterfrack model. The conservation program educates students on awareness, tools, techniques and methods of furniture conservation. The American Institute for Conservation of Historic and Artistic Works (www.aic.stanford.edu) is the professional home for many conservators

working in the U.S., not only of furniture, but of other art forms. The conservation program incorporates considerable information in finishes, chemistry of finishes, anatomy, wood identification and restoration.

This was a fun, informative and productive trip to explore opportunities of mutual interest between Letterfrack colleagues and students and our program at Virginia Tech. Thanks to our Letterfrack friends for their generous hospitality.



(Seated L-R) Sean Tracey (Letterfrack) , Greg Porfido (Mark Richey Woodworking), Dermott McDonovan (Letterfrack), Patrick Tobin (Letterfrack), Dermot O'Donovan (Letterfrack), (back L-R) Paul Winistorfer (VT) and David Kenealy (Southern Virginia Higher Education Center) discuss program content and opportunities for collaboration in Letterfrack, Ireland on December 3, 2008.



Letterfrack 1st year students spend time 'on the bench' gaining experience with hand tools and a project. Students start with an experiential learning environment that then grows and evolves to a computer-based CAD/CAM/CNC platform.



◀ The student design lab at Letterfrack College, Letterfrack, Ireland.

Paul Winistorfer stops to view J.O'Toole & Sons, Ltd. A purveyor of portable hand tools and power tools in Galway, Ireland. ▼



David Kenealy, of the Southern Virginia Higher Education Center in Halifax County Virginia finds there is an opposite universe and another Halifax in Galway, Ireland. ▼



▼ The furniture conservation lab at Letterfrack, Ireland.





▲ Henning Schulze (Lecturer in Furniture Conservation at Letterfrack) shows Tania Porfido the furniture conservation lab
▼ while Letterfrack colleague Sean Tracey looks on.



Think Light - Innovative Lightweight Panels Symposium a Success

The first Think Light – Innovative Lightweight Panels Symposium in Grand Rapids, Michigan organized by Virginia Tech's Department of Wood Science and Forest Products was held on November 17– 20, 2008 and was praised by the participants as providing “Excellent agenda/topics” and “Much more technical and organized than ... envisioned.” One hundred and seventy participants from industry, education, and government learned about lightweight panel technology. They participated in one day of technical presentations and one day of observing a lightweight panel production line in action. Companies attending the symposium included well-known brand names such as Steelcase, Rubbermaid, Sauder, Herman Miller, Swedwood (IKEA) and many others.



Symposium attendees observing the production of lightweight panels. In front, a paper honeycomb expander which sizes and dries the core honeycomb material for the panels. (picture: Buehlmann)



Lightweight panel press line from Torwegge. (picture: Winze)



Samples of lightweight panels that are commercially available today. A wide variety of panels with widely different physical properties and uses can be sourced from several suppliers. (picture: Buehlmann)



Lightweight entertainment center, design by Noah Gregory, Kendall College of Art & Design, Grand Rapids, MI. (picture: Buehlmann)

Support for this successful event was received from many well-respected companies in the woodworking industry: Stiles Machinery, Grand Rapids, MI set-up a demonstration lightweight panel production line including panel formation (honeycomb expander and drier, panel glueing and pressing), panel processing (CNC-center, edge-bander), assembly station, and packaging. Hafele, Archbald, NC in cooperation with OFC, Kerfkore, Windquest, Rehau and Kendall College of Art & Design produced several sample products ranging from closets to entertainment centers. FDM Magazine published several articles related to lightweight panel technology and conducted a market survey in cooperation with Matt Bumgardner (US Forest Service) and Urs Buehlmann. FPIInnovations and the Applied University of Lippe and Höxter supplied the presentations and the book containing in-depth information about lightweight panel materials and technology. Financial and marketing support for the event was received from Stiles Machinery, FDM Magazine, Hafele, Hettich and Rehau. Special thanks is due to the department's administrative staff, Debbie Garnand and Angie Riegel, as well as to Will Pfeil, the department's web and design “wizard.”

Four days of intensive focus on lightweight panel technology allowed industry participants to become more familiar with the material and the technology, to ask questions to the experts present, and to exchange ideas among themselves. The symposium attendees also discussed the creation of the Lightweight Panel Network to advance the cause of lightweight panel technology. The network will work on educational, promotional and research related issues of lightweight panel technology and will be supported by industry and hosted by Virginia Tech. Participants are looking forward to the next lightweight panel symposium slated for Fall 2009 and focusing on “*design with lightweight materials.*” Further information can be obtained from Dr. Urs Buehlmann at Virginia Tech, phone: 540/231.9759.

Glasser Presents at VCU

Professor Emeritus Wolfgang Glasser has recently addressed the faculty, staff and graduate students of Virginia Commonwealth University with a seminar presentation on “The Carbohydrate Economy - From biomass fractionation to biomimetics”. Glasser had been invited to speak on this topic by the Chemical Engineering Department, which is developing research programs emphasizing biomass utilization for fuel and chemical purposes. Glasser had directed the Biobased Materials Center of the Center of Innovative Technology at Virginia Tech between 1986 and 1991. He now lives in retirement in Richmond, VA.

Dr. Anand Mangalam Joins the Department

Dr. Anand Mangalam recently joined the VT Wood Science and Forest Products Department as a post-doctoral research fellow. He comes from Oregon State University where he developed DNA functionalized cellulose nanocrystals for his PhD dissertation. He will work with Drs. Rennekar, Edgar, and Zink-Sharp on the synthesis and characterization of cellulose derivatives, and the elucidation of the impact of crucial raw material and process parameters upon the product characteristics. Please welcome him! He will be located in Cheatham Hall and can be contacted at anand789@vt.edu.



Renovo Hardwood Bicycles - Merging Art-Design-Wood Materials Science-and Advanced Fabrication

Source: [Renovo Bikes](#)

Bicycles of wood have been built since the 1800's, but their heavy frames masked the unique advantages of wood for bicycles because none were hollow. Until now:

Meet The Renovo Hardwood Monocoque (Hollow Frame) Bicycle

The Renovo offers crisp handling, superb ride quality and stunning looks thanks to select woods, a blend of cutting edge CAD/CAM manufacturing, state-of-the-art bonding and finishing technologies, and old-world, hands-on craftsmanship.

Wood's Unique Properties Deliver:

- A magically smooth ride thanks to its unique ability to absorb vibration--you feel the difference immediately.
- Wood doesn't sacrifice stiffness for smoothness so you get tight handling, sure-footed descents and smooth.
- The hardwood frame is remarkably tough. It easily withstands impacts that ruin butted metal or carbon frames.





- The fatigue life of wood rivals carbon and is substantially longer than aluminum or steel. The Renovo is an heirloom quality frame.
- A Renovo frame weighs from 3.5 to 4.5 pounds.
- The Renovo frame is environmentally friendly, with sustainable woods and low VOC waterborne sealers and finishes.

Why a Wood Bicycle Frame?

The short answer: Wood, nature's carbon fiber, has unique engineering properties that promise superior ride quality and durability compared to man-made materials, and...it's sustainable. When the right wood is combined with an array of

advanced technologies, it becomes a high performance material that will forever change your understanding of 'wood'.



An Old Gym at Alfred U. Houses a Rare Wooden Running Track

Source: Chronicle.com

Alfred University's old Davis Gymnasium has a wooden track at floor level.

(Chronicle photographs by Lawrence Biemiller)

