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OWIC Director



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OWIC has a broad array of resources for research, outreach and technical assistance:

Anatomy and wood quality

Biodeterioration, wood protection and product durability

Wood chemistry

Nanotechnology

Composite materials

Computer-aided manufacturing

Wood drying

Timber engineering and structural design

Forest products business and marketing

Environmental impacts of wood products

Other facilities

For more information, please visit our website, <http://owic.oregonstate.edu>

IN THIS ISSUE

- 1 What is OWIC?
- 1 Why an Innovation Center?
- 1 First-Year Accomplishments
- 3 Future Plans
- 4 Recent Research Discoveries

What is OWIC?

The Oregon Wood Innovation Center (OWIC) was established in December 2005. Our mission is to improve the competitiveness of Oregon's wood products industry by fostering innovation in products, processes, and business systems. OWIC is housed in the College of Forestry at Oregon State University (OSU).

OWIC links the needs and opportunities of Oregon's forest industry with university-based research. Scott Leavengood, with OSU Wood Products Extension since 1994, serves as Center director. In August 2006, Chris Knowles, a PhD candidate in Wood Science and Engineering at OSU, was hired as Program Assistant.

Why an Innovation Center?

In recent years, the forest products industry has changed dramatically, especially with respect to changes in raw material supply and increasingly global markets. The industry has dealt with these changes through consolidation, retooling, and improving processing efficiency. Clearly, process innovation alone will not be sufficient for Oregon firms to maintain long-term competitive advantage. Research has shown that firms should also focus on product and business systems innovation.

OWIC was developed to help firms foster all three types of innovations by serving as a "clearinghouse" to facilitate networking within the industry and to connect manufacturers to the research community and to other assistance providers.

First-year Accomplishments

In our first year of operation, we have focused on building awareness of OWIC as a new resource, developing communications tools and communicating with stakeholders, assisting entrepreneurs, and developing new resources and educational courses.

Building Awareness

Meeting people and listening to industry and community needs were key activities in our first year. We traveled the state and gave presentations about the center in 9 locations around Oregon—from Astoria to Enterprise, Portland to Central Point.

Developing Networking

To address stakeholders' requests that the center serve as a 'one-stop shop' for innovation resources, we developed tools to foster communication between us and industry personnel, as well as within the industry. These tools

include a website, a newsletter, and E-communities.

OWIC website

The site provides information for entrepreneurs, tools to foster networking, technical data on Oregon wood species, case examples of innovative Oregon wood products firms, an 'ask the expert' function, FAQ's, publications, and more. In the first 11 months, over 640,000 visits and nearly 14,000 downloads of publications were registered. Visit us at <http://owic.oregonstate.edu/>.

Newsletter

Our monthly electronic newsletter includes articles on hot topics, a

listing of upcoming events, and a synopsis of ongoing research. In only four months, the number of subscribers reached over 600.

The newsletter has been quite positive, as evidenced by subscriber comments—

"I find that the material in the newsletter is useful to me, and I pass it on to several others."

"This looks like a great way to disseminate information and offer assistance to the small manufacturer. Thanks for doing this."

You can subscribe to the newsletter by contacting **Chris Knowles (Chris.Knowles@oregonstate.edu)**. *It's free!*

E-communities

We have developed web-based discussion forums with the intent of creating 'communities of practice' on a variety of topics, such as the use of Statistical Process Control (SPC) in the wood products industry, independent sawmill operation, lumber grading for small mill operators, and woody biomass utilization. The forums provide a means for community members to search the archives for answers to common questions, post questions and answers, and simply interact with others in the industry.

Forest Industry Directory

The Oregon Forest Industry Directory (<http://www.orforestdirectory.com/>) is a joint effort with the Oregon Small Woodlands Association. The directory, with over 1600 listings, is the most up-to-date and comprehensive listing of Oregon's forest sector and provides details on wood species used, products manufactured and purchased, log-buying preferences, services provided, equipment used, and residues available. The site also has a classified ads section.

The following comments from users demonstrate that the directory is filling its role to foster market connections:

"I picked up a large customer out of California from the Internet, and my only exposure is from your directory..."

"Thanks very much for the lead. From our initial conversation, I'm very hopeful that I will have a good white oak supplier."

"Thank you for your help in setting up the classified ad... I got an e-mail response within a few hours... [the buyer] was impressed enough... to double his original order."

Funding provided by Sustainable Northwest allowed several upgrades to the directory in 2006, including

- **streamlined searches**—Users can now locate log buyers, sources of logs, custom sawyers, furniture producers, and cabinetmakers in a single click.
- **hardcopy results**—Results can be saved in a print-friendly format (PDF) or in a spreadsheet for later use.
- **inventory aggregation**—Landowners can enter the volume of standing (i.e., potentially available) timber they have available for each species—confidentially, if desired. Interested buyers see the total inventory volume by species in each region and can fill out a form to contact all the landowners in the region.

Educational Activities

New Educational Programs

Architectural Design with Wood Back by popular demand! The second annual Architectural Design with Wood course will be held in May of 2007. The course focuses on improving architects' knowledge of wood as a building material.

Wood Technology for Wood Composites Manufacturers This new course will be a comprehensive suite of web-based modules targeting personnel in the wood composites industry. Nineteen modules are planned that will include topics such as wood structure, wood and water relationships, wood adhesive technology, introduction to wood composites, wood-plastic composite manufacturing, and many more.

SURVEY

Educational Needs

Our last comprehensive assessment of educational needs of the Oregon forest products industry was conducted in 1995. We will be updating that assessment in early 2007 by contacting all 1600+ Oregon forest products manufacturers in our database. **We really need your responses.** For more information, contact Jim Reeb at **Jim.Reeb@oregonstate.edu**

Educational Opportunities

Wood Science & Engineering faculty offered 10 continuing education conferences for nearly 400 participants this year. These sessions included

- Lumber Quality Control
- Lumber Quality Leadership
- Northeast Utility Pole Conference
- Selling Forest Products
- Wood Adhesion Short Course
- Forest Products Management Development
- Plywood Manufacturing
- How to Dry Lumber for Quality and Profit and two new courses:
- SPC: Path to Quality in Wood Products Manufacturing
- Architectural Design with Wood

Technical Assistance

We are assisting several entrepreneurs and established firms that are developing innovative products and processes. These include

- testing to compare material properties of new plywood products to competitive materials
- discussions with a firm developing a wood composite from forest biomass and with 2 firms developing equipment to process biomass for fuel pellets and other uses
- assisting a landowner cooperative with a market assessment and recommendations for strategic investments

Fostering Innovation

Case Examples

We are creating case examples highlighting innovations in the Oregon wood products industry. The stories will present the wide variety of approaches manufacturers take to develop innovative new products, automate and reduce waste in production processes, market products, and build and maintain relationships with customers. They will appear on our website at <http://owic.oregonstate.edu/innovators/>.

Future Plans

Continued Focus on Innovation

Research on innovation in the wood products industry is revealing opportunities to enhance the industry's capacity for innovation through the implementation of a balanced innovative strategy, greater emphases on new product development and development of an organizational culture conducive to innovation. We are also investigating forest industry managers' perceptions of innovation and implementation of innovative strategies. This work will be beneficial in identifying the best paths forward for the industry.

Fostering Industry Networking

Activities to foster industry networking in the planning stages include a tour of the hardwood industry in the eastern U.S. and dinner meetings.

Eastern Hardwoods Tour

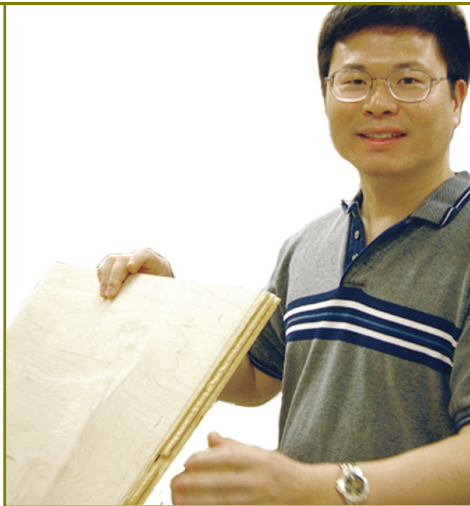
We are working with the University of Tennessee to conduct an educational tour of the eastern hardwood industry in fall of 2007. The main objective of this event is to improve the competitiveness of Oregon's hardwood industry—both producers and users of hardwood lumber—by exposing Oregon manufacturers to the well-established hardwood industry in the eastern U.S.

Dinner Meetings

Stakeholders frequently express a desire to interact with others in the industry. To facilitate this, we are planning to host quarterly dinner meetings around the state. Meetings will feature a speaker on a current topic of interest in the industry and, of course, lots of time for participant networking.



Exercise at Forest Products Management Development course held in February at Richardson Hall.



Kaichang Li holding hardwood plywood bonded with new formaldehyde-free wood adhesive.

Glen Murphy demonstrates ultrasonic testing of wood density in standing trees.

John Simonsen shows a plastic film called polysulfone with cellulose nanocrystals embedded in it. The clear film is three times as stiff as film without cellulose.

Fred Kamke, a leader in research on innovative new wood composite products and technology, is currently working on wood modifications that can be used in composites.

Recent Research Discoveries

Research at OSU has resulted in several discoveries that may lead to innovative new products and processes, including

new wood-plastic composites that are stronger than any similar products now available

a technique for hardening low-density wood species that increases strength up to 300%

ongoing research to develop cellulose nanocrystal-enhanced chemical agent barrier films

use of 'aroma-tagging' to track wood products through the supply chain



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