



Oregon Wood Innovation Center

Connecting people, ideas, resources

COMING OWIC EVENTS:

- July 10-11: [Formaldehyde Regulation Workshop](#)
Eugene, OR
- September 19-20: [From Feedstock to Product](#)
Weed, CA
- Spring 2007: [Wood Adhesion Short Course](#)

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Oregon's Workforce: What is the Future?

A 2005 survey¹ by the North American Institute/Center for Workforce Success and Deloitte Consulting LLP revealed that American manufacturers are currently facing a shortage of qualified workers, with more than 80% of companies responding to the survey answering that they are facing a moderate to severe shortage. Skilled production employees are the largest shortfall, with 90% of responding companies indicating a shortage. However, the survey also indicates that many companies are also facing a shortage of unskilled production employees.

The problems of the larger American manufacturing sector are also affecting Oregon's forest products industry. Difficulty finding skilled and unskilled workers combined with an aging workforce has many industry experts predicting the employment problems facing the Oregon Forest Products industry will become more severe in coming years. The Oregon Employment Department predicts that approximately 47,000 current manufacturing employees in Oregon will retire or move to another occupation during the current decade, representing approximately 23% of the more than 200,000 manufacturing jobs in the state.

The Oregon Employment Department recently released two reports addressing the worker shortage in Oregon: (1) How Will Manufacturers Find Enough

Workers? and (2) Will Oregon Have Enough Workers?

How Will Manufacturers Find Enough Workers is a report that discusses several potential sources where Oregon's manufacturing industry can find new workers, including high school and college graduates, the unemployed, workers from other industries and existing workers choosing to delay retirement. Additionally, the report indicates that the shortfall of jobs could be minimized through improved productivity.

Will Oregon Have Enough Workers discusses several employment trends in Oregon including the effect of slowing economic growth and baby boomer retirements.

The report outlines differences across counties, showing that statewide averages do not provide an adequate representation of conditions in all counties. This is evident by the wide range of unemployment rates and average pay per worker across counties. The differences across industries are equally large, with professional and business services having approximately 100,000 job openings between 2004-2014, compared to only about 55,000 job openings in manufacturing. However, approximately 50% of the job openings for professional and business services are the result of projected industry growth, compared to only about 10% for manufacturing.

The statewide average for the percentage of employees over 55

is 16.0%. However, this percentage varies dramatically by industry and by county. Mining, with 23% has the highest percentage of workers over 55 compared to 15% for manufacturing and 10% for accommodation and food service. On a county basis, Wheeler county (25.1%) has the highest percentage of employees over 55 and Washington County (13.4%) has the lowest.

The report concludes that employers will be able to adjust their employment practices to reduce the impact of baby boomer retirements and that Oregon job openings will be filled by migration into the state. The report identifies finding individuals with the right combination of skills and experience to replace the retiring baby boomers as the biggest challenge facing Oregon employers in the near future.

Initial results from the Oregon forest products industry needs assessment show that workforce issues are of high concern across all sectors of the Oregon Forest products industry.

The full versions of these reports are available on the Oregon Economic Departments website.

How Will Manufacturers Find Enough Workers? http://www.qualityinfo.org/olmisi/ArticleReader?itemid=00005503&segmentid=0002&tour=0&p_date=1.

Will Oregon Have Enough Workers? http://www.qualityinfo.org/pubs/single/enough_workers.pdf.

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¹ 2005 Skills Gap Report – A Survey of the American Manufacturing Workforce, available at: http://www.nam.org/s_nam/bin.asp

Featured Researcher: Rakesh Gupta



The featured researcher for the month of July is [Dr. Rakesh Gupta](#). Rakesh is an Associate Professor in the Department of Wood Science and Engineering at OSU who has been at OSU for 16 years.

Dr. Gupta's current research interests are in the areas of timber engineering and timber mechanics. His research focuses on intelligent and efficient use of wood in structural applications. The major goal of his research program is to develop advanced testing, modeling, and analysis techniques to design efficient and safe wood structures. This includes theoretical and experimental studies addressing problems in timber engineering and mechanics aimed towards the application of wood and wood-based composite materials in structures.

Dr. Gupta currently has six graduate students with two more joining

in the fall. All of his students are working in two specific areas: (1) Response of wood structures to natural hazards and (2) Mechanical properties and behavior of wood and wood based composites.

Dr. Gupta currently teaches three courses (1) Mechanical Behavior of Wood, (2) Wood Design (a course taught primarily to Civil Engineering students), and (3) Wood Science II (a 2-part graduate course that covers all aspects of wood science).

After hurricane Katrina, Dr. Gupta participate in a project with researchers from Colorado State University, University of Alabama, Stimpson Strong Tie Co., and APA-The Engineered Wood Association titled "Collection of Perishable Data on Woodframe Residential Structures in the Wake of Hurricane Katrina". The research team assessed damage of homes in Gulf-

port and Buloxi, Mississippi. Dr. Gupta hopes to use this information to help improve the performance and safety of wood framed buildings in natural disasters.

For more information on Dr. Gupta and the hurricane Karina project please visit his website: <http://woodsscience.oregonstate.edu/faculty/gupta/>.

The Quality-Innovation Connection

Most people will recall Ford Motor Company's slogan – "Quality is Job 1." The slogan, "Driving American Innovation" recently appeared on Ford's website. While these slogans represent a single organization, the change in focus captures what is happening in many sectors of business today – focus on quality as a competitive tool is being replaced by a focus on innovation. Does this mean 'quality is dead?' Are quality and innovation complementary or competing goals? Or can quality management systems be adapted to lead to innovation performance in addition to quality performance?

Researchers exploring the 'quality-innovation connection' have come to the conclusion that quality is necessary but insufficient in today's business environment. Thus, quality is certainly not dead. Long-term success, however, will depend on firms' abilities to create new prod-

ucts, processes, and business systems. Thus it seems it is not a case of managing for quality or innovation but quality and innovation. But again, are these two goals complementary?

Several possible tradeoffs between quality and innovation have been proposed. For example, quality management focuses on incremental improvement and satisfying existing customers, in other words 'doing things better.' Innovation is 'doing things differently' - emphasizing breakthrough improvement and focusing on acquiring new customers. However, research is showing that such distinctions are not necessarily accurate. For example, a group of Australian researchers have studied organizations and found strong linkages between product quality and process innovation. This is not surprising in that many process innovations are pur-

sued with the goal of improving quality and productivity. However, the same researchers have discovered only weak connections between product quality and product innovation.

The Oregon Wood Innovation Center is planning a research project involving case studies in wood products firms that are successfully achieving innovation goals via traditional quality tools and techniques. The goal of the project is to identify specific quality management practices that lead to improved innovation performance. If you are interested in more information on this project, let us know.

Ask the Expert



Have questions related to wood? The faculty of the Wood Science and Engineering Department at OSU have the expertise to handle almost any question about wood. Simply submit your question using the [Ask the Expert form](http://wic.oregonstate.edu/askexpert.php) (<http://wic.oregonstate.edu/askexpert.php>). Please be as specific as possible.

The following are examples of recent 'Ask the Expert' questions:

Question: When considering Eastern and Western Oregon ponderosa pine is there a difference in structural strength between the two regions? Have the two regions been evaluated to determine if there is a difference?

Answer: I don't know of any research to evaluate the structural strength differences between the Willamette valley race of ponderosa pine (westside pine) and ponderosa pine from eastern Oregon (eastside pine) - at least, not yet.

Our wood anatomist, Barb Lachenbruch, and a grad student examined density differences of eastside vs. westside pine a few years ago. Not surprisingly, they found that the westside pine was denser. However, it was surprising that the westside pine was denser even though the samples they tested had the same percentages of latewood and equiva-

lent growth rates.

The [Willamette Valley Ponderosa Pine Conservation Association](#) is currently considering research to determine the mechanical and physical properties of westside pine. We're working with them on this and are still in the planning stages to determine how many samples to test, what tests to conduct, etc.

I'm not sure when we'll have the information but you can keep in touch with us or the association folks to get the results when we have them. My suspicion is that westside pine will be significantly stronger than eastside pine. If so, there may well be justification for a separate grade stamp for 'valley pine.' We'll see if that suspicion is correct.

Question: I am inquiring about someone to purchase 3 black walnut trees in my yard.

Answer: This is one of the most frequent questions we receive given that walnut is prized for furniture, cabinets, etc. However, it is the kiln-dried lumber that is valuable, much more so than the standing tree. The difference, of course is the skills, equipment, and thus costs to fell the trees (particularly if they are near structures), remove limbs, cut logs to length, skid to a road, load, process (saw, edge, trim to

length), dry, and perhaps plane the lumber.

If you incur the up-front costs to have all that done, you will likely make some money selling the finished lumber product. Otherwise, it can be difficult to find someone to pay you (or at least pay very much) for the standing trees due to the significant costs involved in simply getting the trees down on the ground and cleaned up.

That said, you might be able to find a custom sawyer in the [Oregon Forest Industry Directory](#) and/or a log buyer that would pay for the logs. If you click on 'Custom sawyers' you will see a list of 56 firms. You can narrow the list by selecting the region of the state where you live. To search the list of log buyers, return to the home page and click on 'walnut' under the list of log buyers. Again, you can narrow the results.

Another option might be to contact an arborist or tree service that can fell the trees; you can find a list of certified arborists in the Pacific Northwest on the International Society for Arboriculture website at <http://www.pnwisa.org/>. Some of these folks might also have small sawmills (for just these sorts of occasions) and as such might be interested in buying the logs.

First Announcement: Biomass Workshop “From Feedstock to Product”

Gareth Mayhead
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Field Station
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September 19th-20th 2007, Weed,
California: College of the Siskiyous

This two day workshop will provide
a forum for key players to discuss

biomass resource and market development opportunities in northern California and southern Oregon. The first day will consist of panel presentations in the areas of feedstocks & fiber supply, biomass conversion technologies (products and energy), policy & environmental considerations and will conclude with identification of funding and

sources of assistance.

The second day will consist of a field tour to a number of existing biomass utilization facilities including solid wood products and energy applications in the area.

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Biomass Workshop Cont.

The target audience includes public, private and tribal forest resource managers, policy makers, natural resource professionals, loggers, biomass contractors, interested businesses, utility companies and interested citizens.

The workshop is organized by the University of California Berkeley Center for Forestry with support from the California Association of

Resource Conservation & Development Councils, Oregon Wood Innovation Center and the Forest Products Society Pacific Southwest Chapter.

Details are currently being finalized by the organizing committee. The final agenda will be available in mid July 2007 and will include all details including cost for attendance.

For further information or for inquiries about limited exhibit space please contact Sherry Cooper at UC Cooperative Extension via slcooper@nature.berkeley.edu or (530) 224-4902. The conference website at <http://forestry.berkeley.edu/biomass> will have information from mid July 2007.

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