By Susan Trulove

Leonard K. Peters, vice provost for research, will leave the university and become Battelle senior vice president and director of the Pacific Northwest National Laboratory in Richland, Wash. Peters assumes his new position on April 1.

Peters studied the actual reasons for the increase in satisfaction with work not being a ‘haven’ from home, according to his research. The study was published in the journal *Spectrum*. Peters is a faculty member at Virginia Tech and the lead author of the study. The report, which was released by the Department of Energy (DOE), focuses on the relationship between work and home satisfaction.

According to the report, the percentage of women who find work more satisfying than home has increased from $626,000 to $2.3 million. This trend is particularly evident among people who worked for the first time in the last 10 years. The report also notes that men haven’t changed, but the percentage of women who find work more satisfying than home has increased from $135.8 million to more than $230 million at Virginia Tech since 1993, and royalties from patents and copyrights have grown from $626,000 to $2.3 million.

“I’ve enjoyed being a member of the university community and am proud to have had the privilege to work with the distinguished faculty at Virginia Tech,” Peters said. “During the year and a half that I’ve worked with Len, I’ve valued the wonderful leadership he provides for the research community at Virginia Tech,” Provost Mark McNamee said. “He is a successful planner and innovator and an articulate advocate for research and scholarship at a critical time in our growth as a research university. I wish him great success as he takes on a wonderful new opportunity.”

Peters initiated a number of partnerships, including one with Carillon Health Services and the University of Virginia to create the Carillon Biomedical Institute. He was instrumental in bringing together six core universities led by the University of Tennessee (UT) and Battelle Memorial Institute that won the management contract for Housing Research (VCHR) to bring a greater level of “innovation and industrialization” to the housing industry. The team consists of three principal investigators—Michael O’Brien in architecture, Ron Wakefield and Yvan Beliveau in the building-construction department—and several graduate students. They have investigated high-tech developments in the construction and manufacturing industries, and how those developments could be integrated into the construction of today’s house.

HJD just released Phase III of Industrializing the Residential Construction Site, which deals with production systems and exploring the impact of information breaks on actual workflow. Technical and managerial approaches are studied that will lead to more rapid construction production, with better planning and coordination, and with more efficient material and labor use.


The overall goal of this multi-phase HUD-sponsored research project is to identify, map, and refine the overall process of residential construction. The first report, released in 2000, spoke in general terms about the means and methods available for integrating and industrializing the housing-construction site and the housing industry. It described the history and possibilities for industrialization in the industry, and laid out five areas that best contained the possibility of transforming the construction site: production integration, operations integration, performance integration, information integration, and physical integration.

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HJD chose to have the team explore “information integration” in Phase II, released in 2001, which dealt with information mapping and how information exchanges, relationships, and mechanisms shaped construction operations. As the common denominator on all construction sites, information is a critical beginning for understanding integration, and one that HUD believes is central to this ongoing research. The researchers were recently awarded $175,000 by HUD to fund Phase IV, which will model specificBuilder processes and evaluate the advantages or disadvantages to alternatives/revisions to the production systems studied in Phase III. The Phase IV (See HUD on 4)
**Events**

**Friday 21**

**Last Day to Drop.**

**Saturday, 22**

Men's Basketball, 1 p.m.: At Notre Dame.

Women's Basketball, 2 p.m., Cassell Coliseum: Villanova.

Multimedia Presentation, 7 p.m., DBHCC: “What It Means to be a Virginia Indian in the 21st Century.”

New River Valley Symphony, 8 p.m., Burruss auditorium.

**Sunday, 23**

Music Event, 3 p.m., Squires Recital Salon.

**Monday, 24**

Annual Conference on Business Ethics, 5:30 to 6:45 p.m., 100 McBryde: Pat Werhane, UVa.

Horticulture Garden Class, 7 to 9 p.m., Greenough complex classroom: Alan McDaniel.

**Tuesday, 25**

**Annual Conference on Business Ethics, 7:30 p.m., Burruss auditorium:** Gene Fife, retired chairman of Goldman, Sachs International.

**Wednesday, 26**

**Annual Conference on Business Ethics, 9 to 10:45 a.m., 364 Wallace:**

YMCA Mornings, 9:30 to 11:30 a.m., Luther Memorial Church.

YMCA Slide Show, noon, Cranwell Center.

Men's Basketball, 7 p.m., Cassell Coliseum: Pittsburgh. “With Good Reason,” 7:30 p.m., WVT.

Women's Basketball, 7:30 p.m.: At Rutgers.

**Thursday, 27**

Black History Month Event, 6 to 8 p.m., Squires Brush Mountain: The Lost Souls of Black Faculty.

**Friday, 28**

Pay Date for Faculty and Staff Members.
Celia Hayhoe, assistant professor, apparel, housing, and resource management, has received the Epsilon Sigma Phi Program Achievement (Category IV) First Place Award for a co-developed high-school financial-planning program and the Program Achievement Award First Place National Initiative (Category VI) for a high-school financial-planning web site. Also, the Kentucky Association of State Extension Professionals presented Hayhoe with an Outstanding Program award for the high-school financial-planning web site. Additionally, Hayhoe and a colleague from Rutgers University received a J.P. Morgan Chase Foundation Grant for their proposal titled “Financial Literacy Using Newspapers in Education.” Melissa Chase, assistant professor in apparel, housing, and resource management, is the project associate.

Sherry Schofield-Tomschin, assistant professor of apparel, housing, and resource management, has received a “Certificate of Teaching Excellence Award” from the College of Human Sciences and Education.

Julia Beamish, professor, Rosemary Goss, professor, and JoAnn Emmel, assistant professor of apparel, housing, and resource management, had their article “Lifestyle influences on housing preferences” published in the journal Housing and Society.

Katherine Parrott, professor in apparel, housing, and resource management, co-authored the paper “Home environments and allergen avoidance practices of female allergic patients” which was published in the Proceedings of the Thai Society of Gerontology and the Geriatric Medicine by the Thai Society of Gerontology and Geriatric Medicine.

LuAnn Gaskill, professor and department chair of apparel, housing, and resource management, served as a research-discussion-panel member and as a session chair at the United States Association of Small Business and Entrepreneurship Conference in Hilton Head, South Carolina, in January.

Marshall White, professor of wood science and forest products, spoke at the National Wooden Pallet and Container Association (NWPCA) Recycling and Repair Conference, held in October in Charlotte, N.C. He spoke on the latest version of pallet-design systems (PDS), which features a model for predicting the performance of remanufactured pallets and combo pallets. White’s International Pallet Testing Project convened working groups at the International Pallet Standards Meetings held in October in Orlando, Fla.

The Australian National University in Canberra and the University of Melbourne recently invited Bob Smith, associate professor and director of the Center for Forest Products Marketing and Management, to talk about the forest-products marketing and education research program at Virginia Tech. Posed to double its wood output by the end of this decade, Australia is investigating possible options for developing its own forest-products marketing-research and education program.

Smith, a Fulbright senior specialist candidate, has given presentations and been involved with projects in Chile, England, Germany, Russia, Mexico, Canada, Australia, Malaysia, Finland and the United States.

In her recently published book, Soulstepping: African American Step Shows, Professor Elizabeth Fine documents the history of stepping. Her book is the first to explore the history of stepping and its place as a ritual dance of identity and African heritage.

In Soulstepping, Fine explains the process of creating and negotiating identity through stepping, probes the intersections of verbal and non-verbal performances and addresses issues of cultural politics.

Samuel R. Cook, coordinator of the American Indian Studies Program, has recently received two distinctions from anthropological associations. Cook has been awarded fellow status in the Society for Applied Anthropology. His book, Monacans and Miners: Native American and Coal Mining Communities in Appalachia, has received the Mooney award.

The Mooney award is given annually by the Southern Anthropological Society for the best book published in the past two years on a theme in southern anthropology or ethnography. Cook’s Monacans and Miners compares the political, economic and social experiences of the indigenous Moncan people of Amherst County to the Scottish and Irish settlers of Wyoming County, W.Va. in the late 18th century.

Bruce Wallace, geneticist and distinguished professor emeritus of biology, has had four of his published books translated into Portuguese in Brazil.

The Environment: As I See it, Science is Not Enough and The Environment 2: As I See it, the Mold Must Be Broken are books each compiled of about 100 essays. The essays in The Environment discuss science, government, academia, and current events. The Environment 2 consists of an overview of environmental concerns, and a variety of solutions to these environmental problems. These books have received excellent reviews from The Quarterly Review of Biology and The Roanoke Times. The Study of Gene Action, which was published with Joseph Falkingham, and The Search for the Gene were also published and translated into Portuguese.

Michael Olsen, professor of hospitality and tourism management, has been appointed a member of the International Hotel Investment Council.

The 18-member council provides a forum for the discussion of issues in investment in the hotel industry. It awards research grants to senior academics and seeks to promote industry-wide positions on relevant issues. Olsen, who specializes in strategic management in the hospitality industry, is one of the two academic members on the council.

Every two years, members of the academic community are recognized for educational excellence by being named to Who’s Who Among America’s Teachers. The following faculty members from have been chosen by the community as the most influential educators: Harold Eugene Burkhardt, Department of Forestry; David E. Clark, Department of Materials Engineering; D. Michael Denbow, Department of Animal and Poultry Science; E. Scott Geller, Department of Psychology; Mark Gifford, Department of Philosophy; Edmund G. Henneke II, Department of Engineering; Abigail Waters Kohler, Department of Mathematics; David Martin McKee, Department of Music; Kent Nakamoto, Department of Marketing; George M. Simmons Jr., Department of Biology; Larry Thomas Taylor, Department of Chemistry; and Brenda Sophia Jacqueline Winkel, Department of Biology.

The following classified positions are currently available. Position details, specific application procedures, position-closing dates may be found on Personnel Services web site http://www.ps.vt.edu. Positions are also listed on the Job Line, a 24-hour recorded message service. For information on all job listings, call 1-5300. Some positions include state benefits. Positions with numbers beginning with “W” are hourly and do not include state benefits. Individuals with disabilities desiring assistance or accommodation in the application process should call by the application deadline. Closing date for advertised positions is 1 p.m. Monday. An EO/AA employer committed to diversity.

 Classified Positions

FULL TIME

One full-time food-service position available.

Associate Director of Culinary Services, 002947H, PB 5, RDP.
Assistant Director of Budget Operations/ E&G Budget Manager, 001951F, PB 5, RDP.
Database Administrator, 007433G, PB 6.

IS&G TS/DBMS.
Lab Specialist Senior, 007433M, PB 4, PPWS. Medical Technologist, 006771M, PB 4, VTH. Medical Technologist, 002666M, PB 4, VTH.
VTTI researchers looking at single wide-base truck tires

By Ennis McCrery

Pavement researchers at the Virginia Tech Transportation Institute (VTTI) are examining the use of cost-effective single wide-base tires in place of dual tires on big rigs.

Sponsored by a grant from the Michelin Americas Research and Development Corporation, the research uses field-test data and computer simulation to address the concerns of U.S. pavement engineers that wide-base tires may cause a significant increase in pavement damage on roadways. Pavement deterioration presents serious economic, safety, and traffic concerns. The American Society of Civil Engineers estimates that $1.3 trillion is needed to repair the nation’s infrastructure over the next five years.

“People were really interested in our results,” said Imad Al-Qadi, Charles E. Via Jr., professor of civil and environmental engineering and leader of VTTI’s Roadway Infrastructure Group. Wide-base tires offer many economic and safety benefits for the trucking and transportation industries, including improved road consumption, saving as much as 1,000 gallons of fuel per year in a typical tractor-trailer; increased pay load; increased driver comfort; improved handling and braking; lessened repairs; and reduced tire costs.

Michelin first approached VTTI’s Roadway Infrastructure Group in 2001 to measure the pavement damage caused by wide-base and dual tires. Researchers tested a new wide-base tire developed by Michelin to lessen pavement damage. Previous generations of wide-base tires caused concerns because of their size, shape, and high pressure levels. The new tire offers a wider, flatter footprint; uses a stronger, crown-belt tire wall; and operates at the same tire pressure as dual tires.

Pavement researchers at VTTI tested tires under different loading and environmental conditions and at different speeds and tire pressures to fully understand the pavement’s response to both kinds of tires. The tests were performed on the Virginia Department of Transportation’s Smart Road, which includes 12 different pavement test sections designed and instrumented by the Roadway Infrastructure Group. These sections contain embedded sensors to measure strains, stresses, frost depth, moisture, and temperature.

The tests showed that the wide-base tires induced approximately the same damage as the equivalent dual tires. In addition, researchers determined that the largest contributing factor to pavement damage is the axle load, or weight carried by the truck’s axles, rather than the tire pressure, as was originally believed. Tire pressure was only found to be a factor at shallow depths.

Based on these results, VTTI received another grant from Michelin to develop computer-simulated models that can determine the effects of wide-base tires on any roadway in the world. Starting in January, researchers began using a computer-based technique called Finite Element Analysis (FEA) to create simulated pavement models that allow them to predict pavement response and damage from moving tires.

These models provide similar pavement responses to those measured during testing on the Smart Road; however, researchers can “change the effect of the environment and loading as well as the properties of the pavement system to look at any different loading and materials used,” Al-Qadi said. The models are significant because they are based on real-world, rather than hypothetical, information. “People usually develop a theory and then test. We wanted to see first if this would work before we develop the model,” Al-Qadi said.

VTTI’s research has increased national and international interest in wide-base tires, and many engineers and trucking professionals are considering making the switch.

IN OTHER NEWS

Report ranks home affordability by regions

By Sarah Newbill

A recent report compiled by the Virginia Tech Center for Housing Research and the Virginia Association of REALTORS® concludes that home ownership is affordable to the average family in most areas of Virginia. The report divides Virginia into housing-market regions and measures each on affordability, or ownership-cost burden, based on the percent of income required for the principal and interest payment for owner-occupied housing. Areas where the average housing price requires less than 25 percent of the median family income are considered affordable, and areas where the average price requires 25 percent or more of the median family income are considered unaffordable to the average family.

In 2002, the five most-affordable regions compared with other market areas in the state for home ownership were Southside (10.4 percent), Martinsville (12.8 percent), Dan River (14.4 percent), Richmond (15.0 percent), and South Central (15.5 percent).

Only the top two of the five least-affordable regions listed below had ownership costs considered unaffordable (but just barely so) for the average family in that area. The regions were Lexington (25.8 percent), Greater Piedmont (25.1 percent), Chesapeake Bay and Rivers (23.1 percent), Fairfax-Northern Virginia (22.4 percent), and Williamsburg (20.7 percent).

The rankings above are from the perspective of the affordability of home ownership to the average family within the designated market area—in other words, the affordability of Southside to Southsiders. Another perspective is the affordability of the market area to the average family in Virginia as a whole. From this perspective, four regions face serious affordability concerns if the average Virginia family were to move there. The regions were Fairfax-Northern Virginia, Dulles, Greater Piedmont, and Williamsburg.

The percentage of average median family income required to purchase a house in Virginia in 2002 was 18 percent, just below the national average of 18.6 percent. This is down over a point from 19.1 percent in the previous year.

Overall, Virginia is a good area for homeowners, said Ted Koebel, director for the Virginia Center for Housing Research, but he is quick to point out that affordability is a serious concern in some areas. “Virginia as a whole fares well in comparison with the nation in terms of homeowner affordability. However, steep increases in housing prices in northern Virginia have made that a less affordable region, particularly for anyone moving there from elsewhere in Virginia.”

Koebel also said the search for affordable housing in northern Virginia makes the lower costs in adjacent rural counties and small towns very attractive, prompting a “leap-frog” effect. “Leap-frog development solves an affordability problem for people living in or moving to northern Virginia, but it often creates an affordability problem for residents living in the more rural outlying communities, causing their land and housing prices to increase. We have to plan for an adequate housing supply within a reasonable distance of jobs. That should be a key test to determine if growth planning is truly ‘smart.’”

The full report can be downloaded at the VCHR web site at http://www.caus.vt.edu/CAUS/RESEARCH/vchr/VCHR.html. For more information, contact Koebel at 1-3939.

PETERS

Continued from 1

and operating contract for the U.S. Department of Energy’s Oak Ridge National Laboratory. This project is one of several that the Center for Housing Research is conducting for HUD.

“We now look forward to strengthened ties with the Pacific Northwest National Laboratory and with the Department of Energy,” Steger said, “and we wish Dr. Peters continued success.”

Peters said, “PNLN is an outstanding scientific organization doing excellent research in energy and environment and other areas important to our nation’s science and technology agenda. I am looking forward to the associations and contributions I will be able to make to the laboratory and to the community as we collectively work to meet important DOE missions.”

As dean of the Graduate School, he expanded tuition-remission scholarships for graduate students, increased course offerings to part-time students by increasing resources to departments offering off-campus programs, and supported a Graduate School, computer science, and library collaboration to create the electronic theses and dissertation (ETD) project, which became an international model. The Graduate School was split from the Research Division in 2001. In addition, Peters is president of Virginia Tech Intellectual Properties Inc. and serves on the boards of the Virginia Tech Corporate Research Center and the venture capital partnership, Triad Investors Inc.