



CNRE NEWS

COLLEGE OF NATURAL RESOURCES AND ENVIRONMENT

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HELPING PRIVATE LANDOWNERS GET THE MOST OUT OF THEIR WOODLANDS

Many people are unaware that nonindustrial private landowners own nearly 65 percent of Virginia's 15.6 million acres of forest land. Active management can promote healthy, vigorous forests as well as offer these landowners a source of income. Jennifer Gagnon, coordinator of the Virginia Forest Landowner Education Program (VFLEP), which is based in the college, works to ensure that landowners are educated about sustainable forest management to help them get the most out of their woodlands.

VFLEP is expanding its online course offerings by collaborating with the Virginia SHARP Logger Program and the Virginia LEAF Program to offer online training modules for loggers, foresters, and landowners. Two modules are currently available, with more to come later this year. "The online modules are an evolving project," said Gagnon. "We are actively working on developing new modules and hope to have a whole series for folks to participate in."

In addition to its course offerings, VFLEP holds landowner retreats and field tours, produces a quarterly newsletter mailed to 7,000 landowners statewide, and maintains a website with archives of the newsletters, a calendar of events, and links to reputable natural resource websites and publications.

In October, VFLEP held its third Annual Landowner Retreat, a weekend program designed to help private forest landowners reach their landowner objectives and



Landowners learn to identify common Virginia tree species during an Online Woodland Options course field trip in the Appomattox-Buckingham State Forest.

A large part of VFLEP's success is due to the extensive volunteer network of state and private natural resource personnel who help implement the program across the commonwealth. "The program would not be possible without our sponsors and partners," Gagnon emphasized. Another important aspect of the program's success is the forestry and natural resources district Extension agents who assist with local program develop-



Landowners plant seedlings at a pine planting workshop at McCormick Farm in Steeles Tavern.

"Many of Virginia's 373,000 landowners are new to forest management and have questions about what they should do and what assistance is available to them," said Gagnon. In collaboration with Virginia Cooperative Extension, VFLEP provides a series of short courses on a range of topics designed to enable forest landowners to meet their ownership objectives through sound forest stewardship and sustainable forestry practices.

Over 6,000 people have participated in the courses, which are sponsored and taught by local professionals from natural resource agencies at 12 to 15 locations across the commonwealth each year. For forest landowners who are too busy to attend classes, VFLEP offers a 12-week online course that includes an optional field trip. "The courses emphasize the importance of planning and professional management assistance, and introduce landowners to practical forest and wildlife management principles and techniques," explained Gagnon.

Quotes from Fall Forestry and Wildlife Field Tour participants:

"Last year's romp around looking at trees was still one of the best days I've had for years!"

"Super organization, well planned to motivate, inspire, and create within us more effective knowledge and stewardship for our homes and communities."

"I am impressed by the presentation of material and the manner in which it was presented."

increase the value of their forestland. Whether landowners are interested in preserving the beauty of their land, harvesting timber, or enhancing wildlife habitat, the annual retreats offer something for everyone.

VFLEP's Annual Fall Forestry and Wildlife Field Tour Series will celebrate its 35th anniversary this fall. On these tours, landowners, natural resource professionals, and other interested Virginians spend a day in the field visiting a variety of properties that are actively managed for timber and wildlife. The experience provides a perfect setting for landowners to discuss their forest management issues with professionals in an informal setting, as well as to network with their peers. "The field tour series is the longest running program of its kind in Virginia, and perhaps even the country," Gagnon emphasized.

ment and logistics. Since VFLEP's inception in 1996, these individuals and groups have worked together to offer educational programs for Virginia's private forest landowners, significantly influencing the health and productivity of Virginia's forests.



Extension Associate Kyle Peer explains management opportunities at the Reynolds Homestead in Patrick County.



A biologist from the Virginia Department of Game and Inland Fisheries teaches landowners about the wood turtle.

Forestry in Virginia, by the numbers:

- 373,600** – number of nonindustrial private forest landowners
- 64%** – percentage of forests owned by nonindustrial private forest landowners
- \$350 million** – amount paid to landowners annually for the harvest of forest products
- \$27.5 billion** – annual economic benefit of forests
- 114,380** – number of jobs in the forest products industry



Jennifer Gagnon teaches participants in a timber cruising workshop how to use a Biltmore stick to measure tree height.

Virginia Forest Landowner Education Program Online

Visit www.cnre.vt.edu/forestupdate to view the Events Calendar, sign up to receive the quarterly newsletter, download publications, or link to other resources. The Virginia Forest Landowner Education Program is also on Facebook.

Greetings from the College of Natural Resources and Environment! The pace quickens as we work on a structural and content overhaul of most of our college's undergraduate degree platform and prepare the college and our students for the future. Our proposal to create an undergraduate degree in meteorology is moving through governance towards us offering the first B.S. in meteorology in the commonwealth beginning in fall 2011. We are also exploring the creation of a new B.S. in water resources. Our curriculum is the heart of our educational platform and sets the stage for program excellence and our students' success. The first cohort of our new Executive Master of Natural Resources program is in house in the National Capital Region. And Professor Steve McMullin and I traveled with our Leadership Institute students to Richmond and Washington, D.C., in early January to meet with agency heads, policy makers, and elected officials. It was a fun and eye-opening four-day trip!

Our college alumni continue to do well in their careers and lives. We are very proud of our college alumni who have served in the military, and in this issue we feature Brande Goracke Reeves, who started her training in the Virginia Tech Corps of Cadets while enrolled in our college. She surely has a unique set of credentials — B.S. in forestry, member of the corps of cadets, and a former Apache helicopter pilot with service in Iraq. There is not likely another woman in the world with this pedigree. Our degrees and departments in natural resources and environment can lead you to many career paths — but at the root is a problem-solving, science-based, quantitative-oriented, comprehensive, experiential education. Not a bad skill set for tackling yesterday's, today's, and tomorrow's problems! The article on Reeves is the first in a series we will run saluting our college alumni from the corps. Check out the story on another outstanding student in this issue — ACC Undergraduate Research Scholar Sarah Webster.

Thanks to all of you who contributed to the college's annual fund during the phonathon. I visited the calling center one evening to charge up the students and was able to talk in person to several of you. Thank you for your generous support.

We will host a new college career fair in October of this year under a big top tent on the Drillfield. Watch for details as we roll out the largest university-sponsored career fair in natural resources and environment for students and employers. Connecting our students to career paths is an important part of our mission.

Please stop in if you are near Blacksburg or let us hear from you via e-mail. Thank you for your continued support and interest in the college. Best wishes for an enjoyable spring. From all of us ...

Warm regards,

Paul M. Winistorfer
Dean
Email: pstorfer@vt.edu



Dean Paul Winistorfer traveled with the Leadership Institute students and institute director Steve McMullin to Richmond and Washington, D.C., during the semester break, including a stop on Capitol Hill to meet with staffers for Sens. Mark Warner and Jim Webb. Front row (L-R): Kathy Hixson, Brittany Schultz, Kenneth Erwin, Kelly Merkl, Lydia Eggleston. Back row (L-R): Dean Paul Winistorfer, Charles Turner, Walker Baldwin, Mitchell Kern, Carine Lynn Squibb, Adam Christie, Hannah Lee. (Not pictured: Patrick Trail)

COLLEGE NEWS

Goodell Heads Wood Science Department

Barry Goodell, the new head of the Department of Wood Science and Forest Products, stepped into his new position in January. "Dr. Goodell brings a wealth of experience to the department," said Dean Paul Winistorfer. "His knowledge of programs in the U.S. and abroad will clearly help us position the department for the future. He brings an open, inclusive leadership style with a keen sense of vision for the future."

"I am excited to be joining Virginia Tech to lead one of the most dynamic faculties in the field of wood science and forest products in the world," Goodell remarked. "I look forward to continuing the fine work of my predecessors, Paul Winistorfer and Audrey Zink-Sharp, in helping to build the reputation of the department."

Goodell has been a faculty member in the University of Maine's Wood Science and Technology program in the School of Forest Resources since 1983. During his tenure as program director from 2003 to 2007, the program quadrupled its enrollment and added an undergraduate elective sequence in wood design and craftsmanship, one of the only of its type in the country.



His accomplishments at the University of Maine include co-founding the Advanced Engineering Wood Composites Center, a world-class accredited facility for research on composites and bio-based composites, and serving as project director of the university's Wood Utilization Research Center and national coordinator for the federally funded 13-state Wood Utilization Research National

Centers Program. He also served as head of the university's Forest Products Laboratory, director of its Wood Sciences and Engineering Institute, and scientific coordinator for two Hatch-Multistate Research Programs.

Goodell is current president of the Forest Products Society, an international organization representing all facets of the forest products industry. He has also served as an executive board member for both the Forest Products Society and the Society of Wood Science and Technology. He received his bachelor's degree from the University of New Hampshire and his master's and doctoral degrees from Oregon State University. Goodell and his wife, Jody Jellison, who is joining Virginia Tech as associate director of the Virginia Agricultural Experiment Station, have two grown sons.

JOB POSTINGS ON HOKIE NATION NETWORK

Hokie Nation Network, a free social and professional networking site exclusively for Hokies brought to you by the Virginia Tech Alumni Association, includes job postings. Log in, create your profile, and start networking today! Visit www.alumni.vt.edu/hnn.

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Web Portal Developed to Aid Swiftly Expanding Field

The college's Virginia Geospatial Extension Program has joined with the Virginia Community College System (VCCS) and the Virginia Space Grant Consortium to develop a geospatial Web portal that will help train future technicians in geospatial technology, which includes geographical information systems (GIS), global positioning systems (GPS), remote sensing, and the collection, analysis, and interpretation of spatial data. This rapidly growing field is in need of trained workers.



John McGee (left) shows participants how to use a handheld GPS unit during a workshop for educators presented through the Geospatial Technician Education Through Virginia's Community Colleges project.

The portal, which will encourage efforts to train geospatial technicians to meet industry demands, will include geospatial technology pathway models, curriculum, professional development materials, and resources,

while serving as a gateway for VCCS faculty, students, and interested parties to support a geospatially literate workforce in Virginia. The curriculum and certificate programs developed will be driven by the needs of business and industry in the commonwealth.

"The VCCS Geospatial Portal will help the community colleges market their geographic information systems courses and work more efficiently together, and will provide students with immediate access to geospatial courses, certificate programs, and other academic options available," remarked John McGee, geospatial Extension specialist and research associate professor in the Department of Forest Resources and Environment Conservation.

Blacksburg Electronic Village developed the geospatial portal with the help of Virginia Western, Tidewater, and John Tyler community colleges, the Virginia Geospatial Extension Program, and the Virginia Space Grant Consortium. David Webb, an associate professor at Virginia Western Community College, emphasized, "The geospatial portal will serve as a clearinghouse of information and will support the dissemination of geospatial education resources among community college faculty."



To Help With Your Recruiting Needs

**CNRE Career Fair
October 2011**

Under the big top tent on the Drillfield. The largest university-sponsored career fair in natural resources and environment! Watch our website (careerfair.cnre.vt.edu) for details, or e-mail CNRECareerFair@vt.edu to receive updates.

Wood-Based Composites Center Advances Program With NSF Grant

The Wood-Based Composites Center based in the wood science department recently received a National Science Foundation (NSF) grant of \$675,000 to create and support an Industry/University Cooperative Research Center (I/UCRC). The grant will leverage industry for a greater research impact while attracting additional funding from industry as well as from federal and state government agencies.

The center functions as an industry-funded research consortium that has included Oregon State University, the University of Maine, and the University of British Columbia. Virginia Tech and Oregon State will serve as the official NSF I/UCRC sites, while all four partner universities will continue to provide wood materials research and education opportunities for the center's students.

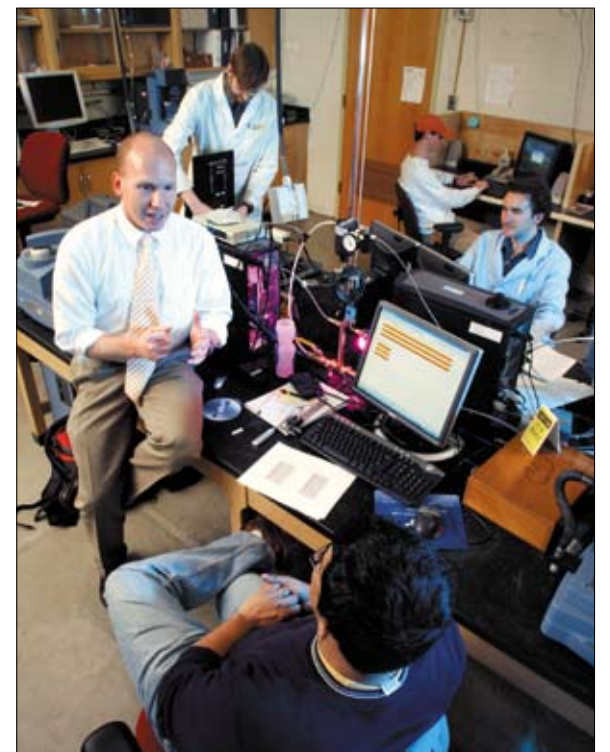
After enjoying record funding in 2008, the center was hit hard by the economic recession, losing 11 of its 17 industry members. The remaining members initiated a six-month strategic planning process in 2009 to reinvent the center for sustainable operation. Center Director Chip Frazier and Managing Director Linda Caudill implemented the resulting

plans, which included pursuing the NSF grant to create an I/UCRC. This grant award, combined with rejuvenated industrial support, including two new industry members, breaks the former record for the center's funding.

"We are excited and gratified. This award benefits our students and expands our service to the industry," Frazier said. "Our industry members' contributions will be leveraged for a much greater impact."

"The center's industry members seek efficient ways to accomplish the fundamental research that supports their business needs," Caudill added. "The center can help them achieve that goal while giving them a first look at potential future employees. The collaborative nature of this NSF program is a win-win for all."

In accepting this award, the center's industry and university members agree to adhere to an NSF I/UCRC model of close industry/university collaboration in which students receive advanced, interdisciplinary training in the context of current industrial challenges and opportunities.



Chip Frazier (L) has directed the Wood-Based Composites Center since 2005.

Grant to Improve Residential Construction Safety

Two professors have been awarded a research grant from the National Institute for Occupational Safety and Health that will help reduce injuries and save lives among residential construction workers by addressing jobsite fall prevention. Daniel Hindman, associate professor of wood science and forest products, and Tonya Smith-Jackson, an associate professor in the College of Engineering, will use the \$825,464 grant to fund a four-year project in Virginia Tech's Occupational Safety and Health Research Center to develop and evaluate a new Fall Arrest System for residential housing construction.



The research project will develop a more effective Fall Arrest System — a set of equipment used to prevent construction workers from falling while they perform their daily tasks.

The project will adapt an existing Fall Arrest System — a set of equipment, typically including a safety harness, lanyard, and anchorage system, used to prevent construction workers from falling while they perform their daily tasks — from post-frame construction and redesign it for second-story work. The researchers will analyze the system's usability in actual construction situations as well as collect valuable information on the needs and attitudes of workers. Ease of use, worker attitudes and perceptions, and the loss of construction time by using safety equipment are among the top concerns.

"This grant provides insight into the challenges of residential construction safety and addresses the need for fall protection," stated Hindman. Smith-Jackson added, "Our work benefits from synergies between engineering, wood science, and psychology. We are able to address the Fall Arrest System as a real sociotechnical system that is influenced by the physical design and usability of the system, as well as company management, organizational and cultural factors, and workers' attitudes."

Virginia Tech Tops Nation in Tree Planters

Virginia Tech ranks number one in the nation when it comes to Tree Campus USA tree planters. More than 900 Virginia Tech students, alumni, donors, and supporters signed up to become tree planters at the Arbor Day Foundation website, earning the university first place in the Tree Campus USA Root for Your Home Team contest. By registering more tree planters than the 73 other Tree Campus USA institutions, Virginia Tech will receive \$2,500 in free trees to be planted on campus in the spring.

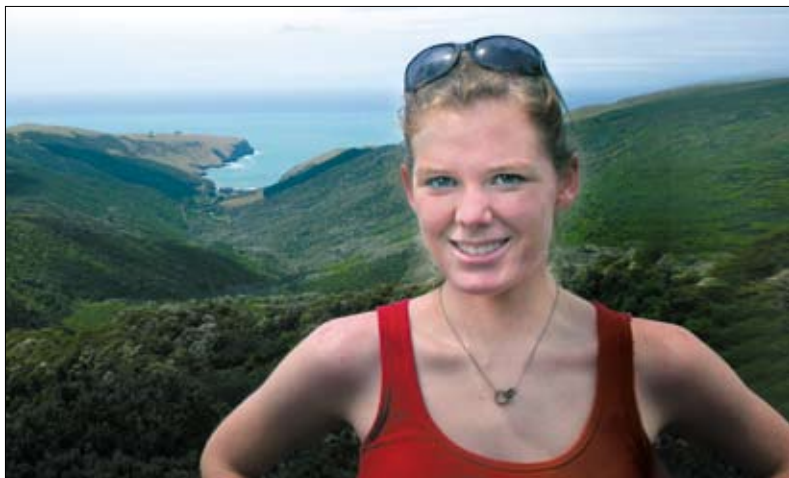


Students and volunteers planted 100 trees during a Tree Campus USA event in 2008. (Photo by Josh Rosenfeld, Town of Blacksburg)

Individuals who sign up to become tree planters learn about tree-planting opportunities in their area, receive monthly updates on ways to make a positive impact on the environment, and are eligible to participate in other contests at the Arbor Day Foundation website (www.arbordaynow.org).

To become a Tree Campus USA college or university, an institution must meet five core standards of tree care and community engagement: establishing a campus tree advisory committee, providing evidence of a campus tree-care plan, having dedicated annual expenditures on the campus tree plan, observing Arbor Day, and offering service-learning projects aimed at engaging the student body. Virginia Tech was among the first nine schools designated as a Tree Campus USA when the program, which is supported by Toyota, was established in 2008.

Webster ACC Undergraduate Research Scholar



Sarah Webster of Matthews, N.C., a senior in the University Honors program majoring in wildlife sciences, was named a 2010-11 ACC Undergraduate Research Scholar. She was one of five students selected among 40 applicants for this scholarship program, which recognizes highly talented undergraduate students who are pursuing ambitious and unique research projects.

Webster's research project is entitled "The Impact of Sustainable Logging on Jaguars in Belize." "My research, with help from Associate Professor Marcella Kelly, explored the effects of a Belizean logging operation on carnivore populations, specifically jaguars, within a privately owned, protected area over two months," Webster reported. "Remote cameras captured photos of jaguars within the protected area. These pictures will identify individual jaguars, estimate the population, and draw conclusions about the effect logging is having on jaguars and other carnivore species in the area. The information will help the landowners effectively manage logging operations while maintaining the jaguar population."

The scholarship included a \$2,000 award, which Webster used to fund a four-week trip to Belize this past summer to set up camera traps and collect data.

Wings Across the Americas Award

Wings Across the Americas, a U.S. Forest Service program that represents an integrated and collaborative approach to the conservation of birds, bats, and butterflies, recognizes outstanding work by employees and their conservation partners each year. **Mike St. Germain**, a graduate student in fisheries and wildlife sciences, was recognized for his contribution to the Southeastern Bat Diversity Network and U.S. Forest Service Bat Blitz partnership, which was selected as the 2010 winner of the Wings Across the Americas Award for bat conservation.



A bat blitz is best described as a coordinated, intensive survey designed to sample the bat community across an extensive area to gather much-needed data on local bat populations. St. Germain volunteered as a team leader for the bat blitz summer trapping events for three years. These events, which usually last two to three days, involve a substantial contribution of time from bat experts who accomplish in just a few days what would take a small field crew an entire season. Hundreds of volunteers, students, partners, and organizations have teamed up to make these efforts successful. In eight years, program partners have donated more than \$10,000 and over 16,000 hours of service with an estimated value of over \$350,000.

Larger Than Life!

Erika Hajnal, a junior wildlife sciences major from Budapest, Hungary, was among several Hokie athletes selected to appear on large banners displayed on lampposts on Southgate Drive near Lane Stadium and on Washington Street. Hajnal, who swims in multiple events for the H20kies, holds a number of school and conference records, and hopes to represent her home country in the 2012 Olympics.



Students on Wildfire's Front Line

The Virginia Tech Wildland Fire Crew helped battle two recent wildfires that broke out days apart in Montgomery County. Student firefighters joined crews from the Virginia Department of Forestry (VDOF) and several local fire departments to fight a blaze on Price Mountain just west of Blacksburg on Nov. 9. That fire had barely been contained before a second fire broke out in the McCoy area four days later. The VDOF has ruled arson as the cause of both fires, which burned a total of almost 450 acres, and has offered a reward for information leading to an arrest.

The students who serve on the Virginia Tech Wildland Fire Crew have earned their "red card," meaning they have completed training and passed both written and physical tests to be certified to fight wildfires. Most all of them take Professor Shep Zedaker's Wildland Fire Ecology and Management course to qualify for certification. "The course is one of the few university classes that actually qualifies students to work in a specific field related to their program of study," said Zedaker, who serves as the crew's faculty sponsor.



Students in the Wildland Fire Ecology and Management course learn fire control techniques as well as how fire can be used as a management tool.

The techniques learned in the classroom and during outdoor labs come in handy when duty calls. "When you first get to a fire, you go into initial attack," reported senior Lindsey Curtin, who serves as the crew's fire

information officer. "You have to size it up, figure out what's going on. We could be digging a line, putting the fire out with water, or putting in a hose lay. There are a lot of ways of attacking a fire."

Though crewmembers have to be prepared to drop whatever they are doing when duty calls, not every member responds to every fire. "We might have 20 people on the crew, but at any one fire we could have maybe five to 10 people," said Curtin. Crewmembers are dispatched to fires a dozen or so days per year. Once on site, the students join crews from the VDOF or the U.S. Forest Service.

Many crewmembers go on to seasonal or long-term positions as wildland firefighters. "Our students can and have gone as far as Type I Incident Commanders, which is the highest operational position one can achieve in wildland firefighting," Zedaker reported.

"It's definitely exciting. Every fire's different and that's why I enjoy doing it," Curtin added.

Hong Selected as Doctoral Scholar

Jung Ki Hong of Daegu City, South Korea, a doctoral student in wood science and forest products, has been chosen as one of nine Virginia Tech Institute for Critical Technology and Applied Science Doctoral Scholars, representing five colleges and nine departments. The institute's Doctoral Scholars Program, which honors exceptional doctoral applicants through the awarding of full financial support, is a cooperative effort supported and coordinated primarily by the institute, with significant contributions from participating departments, colleges, and the Virginia Tech Graduate School.

Hong moved to the United States in 2006 and received his master's at Virginia Tech in 2010. Under the advisement of Associate Professor Maren Roman, he researches the use of cellulose nanocrystals in bone scaffolds. These bone scaffolds support and stimulate the growth of new bone tissue and eliminate the need for surgery to remove the metal scaffolds that are typically used once the bone has grown back.

Upon hearing of his selection as a doctoral scholar, Jung Ki said, "I was really surprised, but I really appreciate it. It's a good opportunity to start a new project and gives me great motivation."



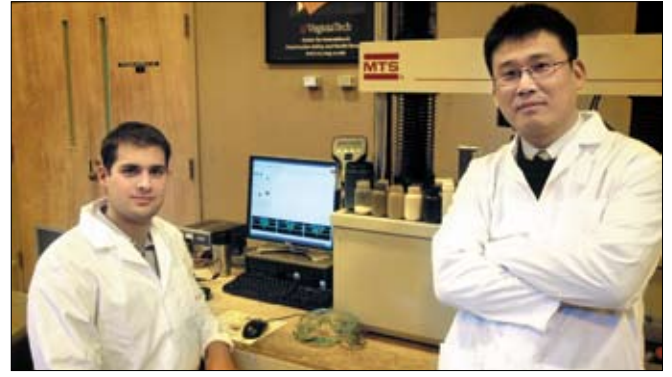
New Packaging Science Faculty

The Department of Wood Science and Forest Products recently welcomed two new faculty members as assistant professors of practice with emphasis on undergraduate education and research in packaging science.

Young Teck Kim has several patents awarded and filed for cutting-edge technology in packaging as well as the agricultural industry. Specializing in biodegradable and plastic polymers, sustainable (rigid/flexible) packaging, smart packaging, and food/pharmaceutical/nutraceutical packaging using various analytical instruments and novel technologies, Kim brings his successful developments in the field and his focus on industrial problem solving to the department.

Kim received his bachelor's and master's degrees from Korea University and his doctorate from Clemson University, where he was later employed as an extension research professor. Kim, his wife, and their seven-year-old son live in Blacksburg.

Laszlo Horvath has been intrigued by the wood industry since a young age; his family owned a custom kitchen manufacturing plant where he learned about woodworking. His research interests include packaging process optimization, packaging engineering, biomaterial characterization, computer modeling of mechanical performance, and life cycle analysis.



Laszlo Horvath (L) and Young Teck Kim

Horvath received his bachelor's degree and two master's degrees from the University of West Hungary, where his research explored both the engineering and business aspects of wood manufacturing and wood structural design, and his doctorate from North Carolina State University.

"We are fortunate to have these individuals join our department to broaden and strengthen our undergraduate instructional program in packaging science using innovative design approaches," remarked Audrey Zink-Sharp, interim department head. "Their efforts will focus on the development of a diverse curriculum, research in packaging science, public service activities, and collaboration with other departments and colleges on campus."

Professor and Graduate Student Given IUFRO Honors

Professor **Janaki Alavalapati**, head of the Department of Forest Resources and Environmental Conservation, and former graduate student **Guillermo Trincado** were honored by the International Union of Forest Research Organizations (IUFRO) at its World Congress last summer.



Janaki Alavalapati

Alavalapati received the IUFRO Scientific Achievement Award for distinguished scientific achievement in the field of forestry research. His research focused on exploring market solutions to promote the sustainable use and management of forests and the environment at local, national, and international levels. "Dr. Alavalapati is highly regarded for his research in forest economics and his positive influence on forest policy. We are delighted to have him as a part of our faculty and leadership team," remarked Dean Paul Winistorfer.



Guillermo Trincado

Trincado ('04 M.S. in statistics, '06 Ph.D. in forest biometrics), currently a professor at the Universidad Austral de Chile, was awarded the IUFRO Outstanding Doctoral Research Award for his state-of-the-art quantitative analysis of the dynamics of first-order branches and knot formation on loblolly pine trees. One of his models represents a significant advancement in the field of quantifying wood characteristics and relating those characteristics to silvicultural practices. "It was a genuine pleasure to have Guillermo as part of our graduate program, and this recognition is well deserved," said Professor Harold Burkhart, Trincado's advisor.

Day Named Early Career Scientist

Assistant Professor **Susan D. Day** received the 2010 Early Career Scientist Award from the International Society of Arboriculture, a professional society with over 22,000 members worldwide that serves the fields of arboriculture and urban forestry. The award recognizes scientists in these fields who demonstrate exceptional promise and high career potential for producing internationally recognized research. "I am truly honored to be selected for this award," said Day. "The International Society of Arboriculture has been a tremendous advocate for research in the disciplines of arboriculture and urban forestry."

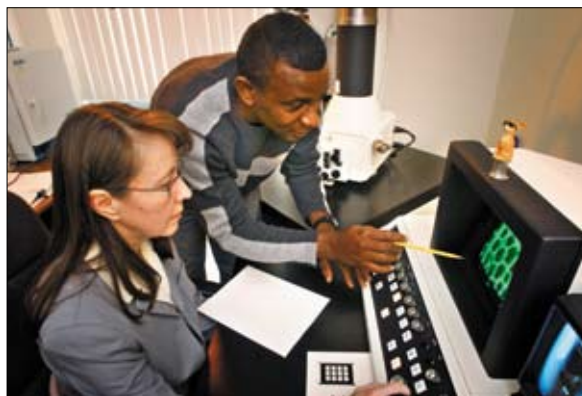


Susan Day (R) with graduate student Julia Bartens at the Urban Horticulture Center.

Day, who has a joint appointment with the college's Department of Forest Resources and Environmental Conservation and the Department of Horticulture in the College of Agriculture and Life Sciences, focuses much of her research on uncovering practical information that will improve tree health and canopy cover in urbanizing environments. She is particularly interested in land development and urban design issues, and how root/soil interactions affect the contribution of trees to urban ecosystems.

Zink-Sharp Now an SWST Fellow

Professor **Audrey Zink-Sharp** has been elected a Fellow of the Society for Wood Science and Technology (SWST), an international organization dedicated to advancing the profession of wood science. One of only 33 Fellows among 450 SWST members, Zink-Sharp is the first female to win this honor and to have served as president of the society. "Receiving Fellow standing in the Society of Wood Science and Technology is quite an honor for me," said Zink-Sharp. "I joined this society as an undergraduate student and have concentrated my professional service within SWST's missions and goals. To be elected an SWST Fellow is recognition that I hold in the highest regard."



Audrey Zink-Sharp (L) examines a cross-section of a wood specimen in the scanning electron microscope with graduate student Richard Johnson.

Oderwald Retires as Professor Emeritus



Rich Oderwald in one of his lighter moments.

The Virginia Tech Board of Visitors honored **Richard Oderwald**, professor of forest biometrics and associate dean of academic programs, with the title of "professor emeritus" following his retirement last summer. The emeritus title, given only to retired faculty and staff specially recommended by the university president, recognizes both Oderwald's significant contributions to the field of forest biometrics and his passion for teaching.

During his 35-year career, Oderwald taught a variety of graduate and undergraduate courses across the spectrum of natural resources topics, earning several awards for teaching excellence and becoming a favorite among students along the way. Last spring, his popularity in the classroom led one student to confer another honor on him — Oderwald became the first professor in the college with a Facebook fan page (search "Dr. Oderwald"). The page records some of the more quotable moments from Oderwald's classes, of which there are many. "The quotes are all true, unfortunately," he quipped, "but really, it's good publicity as long as they spell your name right."

Though officially retired, Oderwald has barely slowed down. He continues to teach the college's Introduction to Renewable Natural Resources course, has started teaching a vector geometry course at New River

Community College, and is developing an online course for forest inventory and point sampling. He also works as a forestry consultant. "It's a great job," he said, "because the more outrageous my advice is, the more money I charge so that people believe it."

However, Oderwald was not free to begin teaching and consulting immediately after cleaning out his office. "I spent the first month of retirement working through the list of 'projects' that my wife had stored up for the last 30 years," he explained wryly.

So far, Oderwald is enjoying his retirement. "The college is in good hands and I think they're going to do well," he said. "I'll be happy to watch them do well, but I don't miss going to work every day. Retirement was a good idea."

DEVELOPMENT HAPPENINGS

WEI Advances Program With Donation From Brooks Whitehurst

The wood science and forest products department's Wood Enterprise Institute (WEI) — a student-run organization dedicated to promoting entrepreneurial opportunities — recently received a gift from alumnus Brooks Whitehurst ('51 B.S. in chemical engineering). Whitehurst visited WEI last summer and recognized it as an important learning environment to develop leadership skills among students as well as an ideal place to "test drive" new technology innovations from a business perspective. His donation will help WEI upgrade its design technologies, facilitate student innovation capability, and create an organized workplace more like those found in industry to help students run their business operations more efficiently.

Offered as a two-semester course, WEI provides students a hands-on learning experience in leading and managing a production business operation. Students create a business plan during the fall semester; in the spring, they execute the plan and keep track of business and financial performance metrics. The team sets business goals and manages daily operations such as product design, prototyping, mass production, marketing, packaging, and sales. Supervised by Professor Earl Kline, the students learn how to systematically analyze business limitations and improve operations for a more sustainable business. "I am truly honored that Brooks Whitehurst recognizes and supports WEI as an important learning opportunity to grow our students' capacity in entrepreneurship," Kline noted.

Anthony Muscatello, a senior who was in last year's WEI, values the entrepreneurial experiences created through the program: "We dealt with real problems in the business world that connect students to future employers." During another visit to WEI last fall, Whitehurst said, "This experience offers students a good balance of education in technology, design, management, and business all in one course."



WEI students presented Brooks Whitehurst with a set of laser-engraved wooden coasters, one of the products WEI is producing this year, during a recent visit. Pictured, front row (L-R): Professor Earl Kline, Brooks Whitehurst, Jon Diamond, Matt Mohr, Scott McDonald, Jandir Santin, Andrew Bernard; back row: Shawn Crawford, Conan Cook, Will Rand.

For more information about making a donation to the college, contact Bob Mollenhauer, director of development, at 540/231-8859 or bobm5@vt.edu.

ALUMNI CORNER

Salute to Former Apache Helicopter Pilot Brande Goracke Reeves

Since its inception in 1872, the Virginia Tech Corps of Cadets, one of the oldest traditions on campus, has had a track record of producing outstanding leaders for the commonwealth and the nation. Its alumni not only achieve great success in the military but also provide leadership in professions, business, industry, and public service. The College of Natural Resources and Environment (CNRE) has had its fair share of corps leaders, such as former Captain **Brande Goracke Reeves** ('01 B.S. in forestry), who graduated with a commission in the U.S. Army as an aviator, not a common path for women.

"Brande was one of our star cadets who was selected for flight school upon being commissioned," recalled Denny Cochrane, now the university's sustainability program manager, who commanded the Virginia Tech Army ROTC Program when Reeves was a student. She went on to do two tours in Iraq: 2003-04 and 2006-07.

The career helicopter pilot, who flew an AH-64 Apache, the Army's primary attack helicopter, in Iraq, got her flight training along with another CNRE alumnus, Cliff Anders ('00 B.S. in forestry). Anders, who played for the Hokies in the 2000 Sugar Bowl, led a flyover at the 2008 Virginia Tech homecoming game and continues to fly helicopters in his civilian career.

"Flying the Apache was like driving a Porsche," Reeves described. "It's an awesome experience piloting that aircraft, and its response time is lightning quick. As I flew over landscapes, I often thought back to my forestry classes where we learned how the tree compositions change according to the soils and geography of the land. There were only a handful of us in CNRE who were in the corps of cadets, so we were a tight-knit group." Reeves was one of about 23 CNRE students among 800 cadets while at Virginia Tech. "Much of what I learned in natural resources could be applied to military operations and was a big help to me in the Army and my aviation career," she added. "Vice versa, my Army training helped me in my CNRE studies, including land navigation and enduring harsh environmental conditions during Forestry Camp."



Brande Goracke Reeves was initially assigned to the 1st Armored Division out of Germany in 2003. Here, Reeves and co-pilot Chief Warrant Officer 4 Anthony Reed, assigned to the 1st Cavalry Division out of Ft. Hood, Texas, get ready for a mission over Baghdad soon after the Virginia Tech April 2007 tragedy. (Photo by Rich Reid)



Reeves was one of very few women to fly the AH-64 Apache, the Army's primary attack helicopter. While flying a mission over Baghdad, she holds up a Virginia Tech flag as Chief Warrant Officer 4 Anthony Reed pilots from the back seat. (Photo by Rich Reid)

One of Reeves' most memorable moments was on April 20, 2007, when she and co-pilot Anthony Reed flew the Virginia Tech flag over more than 100 miles of hostile skies around Baghdad in honor of the heroes, families, and lives lost in the tragedy at Virginia Tech. Fellow Hokie Cliff Anders, who was also stationed in Baghdad, flew a similar mission that day. One can only imagine what it was like for them and the other Hokies in Iraq to be in a war zone and hear about what happened back home.

Virginia Tech had been the top college choice for the environmental resource management major from Springfield, Va., because the corps paid her way. "CNRE, which has a unique natural resources program, and the corps make for natural partners because we have a lot in common," Reeves said. "It all leads to service, like the Virginia Tech motto *Ut Prosim* [That I May Serve] proclaims." After an eight-year stint in the Army's aviation program, Reeves is now back in Blacksburg assisting the corps of cadets as a member of its board of directors. Married to Adam Reeves, an Army ROTC assistant professor of military science at Virginia Tech, she is now taking time to slow down and start a family. She met her husband, an Eastern Kentucky University criminal justice graduate, in flight school, and the couple did two combined deployments in Iraq.

Reeves stressed that corps grads "are known for being dependable — when you give them something to do, you know they will take care of it." She appreciated her rigorous corps training in which cadets were given assignments without being micromanaged so that they could learn on their own. "Cliff Anders is one great example of the kind of leader the college and the corps has produced," she pointed out. "The programs certainly served me well. Most of those who go through the corps graduate with a minor in leadership."

She explained that the corps is currently focused on four goals: (1) building leaders with integrity, (2) growing the corps to 1,000 cadets, (3) increasing the Emerging Leader Scholarships, and (4) renovating Lane Hall and the ROTC facilities.

"One-fifth of the corps is now women," Reeves pointed out. "Eighty percent of corps grads leave with a commission, the highest of any similar program in the nation." The remaining cadets are in the corps for leadership training but do not take the ROTC track. The only other universities with a corps offering are The Citadel, North Georgia College & State University, Norwich University in Vermont, and Texas A&M. This year's freshman class of 352 is the Virginia Tech Corps of Cadet's largest in four decades.

Dean Paul Winistorfer summed it up well when he said, "You never know where a degree in natural resources can take you. The corps and the three ROTC programs with the Air Force, Army, and Navy act as academic multipliers with our college programs to provide those students with exceptional leadership skills and experiences to produce a very special graduate."

Alumni Profile

Greg Meade

As **Greg Meade** ('94 B.S. and '96 M.S. in forestry), manager of the Conservation Forestry Program for The Nature Conservancy in Abingdon, Va., has garnered accolades and established an outstanding career and reputation in forestry, he has maintained close ties to his alma mater. He praises his core education at Virginia Tech as well-rounded and practical, and says he received exceptional mentoring as well as valuable contacts in the forestry community from his advisor, Bob Shaffer. "I have received tremendous support since graduation," Meade said. "As I had questions, I would call faculty or tap into the forestry Extension staff and have always received strong support."

In light of his leadership, professionalism, and commitment to his profession, Meade received the 2009 Society of American Foresters (SAF) National Young Forester Leadership Award, of which he is very proud. "It was humbling to receive the award in front of several hundred peers. I was glad to contribute to Virginia Tech's streak of winning this award," he remarked, noting that a number of recent winners have ties to the university, either as graduates or faculty. Meade has been an active SAF member since 1996, including chairing the Skyline Chapter of the Virginia SAF, and received the SAF Virginia Young Forester Leadership Award in 2008.



Greg Meade (Photo by Daniel White, TNC)

As assistant regional forester with the Virginia Department of Forestry from 2001 to 2007, Meade's duties included mentoring young county foresters and playing a leadership role in many of the department's training courses. "I was expected to do a certain amount of mentoring and training," he recalled. "In my case, I had many new foresters start their careers under my watch."

Meade's career was a natural progression from his youthful forays into local forests. "Like many foresters, I grew up in a rural area, spending almost all my free time in the local forests," he observed. Natural resources courses in high school sparked his interest in forestry education, and his path proceeded from there.

"Over time my career has moved closer to conservation, leading up to my current position at The Nature Conservancy," Meade added. "I came to recognize that conservation and forest products production are not mutually exclusive. In fact, in many cases the combination of conservation along with production can lead to greater gains in both areas. This to me is very exciting. It is kind of like having your cake and eating it too!"

Alumni News



Keith Ashley ('75 B.S. in biology and '79 M.S. in fisheries and wildlife sciences) was named the 2009 Fishery Biologist of the Year by the Southeastern Association of Fish and Wildlife Agencies. Ashley, who has spent 27 years of his career

with the N.C. Wildlife Resources Commission, was recognized for his management work with catfish, largemouth bass, sunfish, American shad, and striped bass. As a district fisheries biologist, he has been heavily involved in the commission's effort to address catfish management issues in North Carolina's coastal rivers. Ashley has also worked extensively with anadromous fishes in coastal rivers and provides technical guidance to municipalities and other lake and pond owners on managing fisheries to provide quality fishing experiences. A member of the American Fisheries Society and a certified fisheries scientist, Ashley resides in Elizabethtown, N.C., with his wife, Renee.



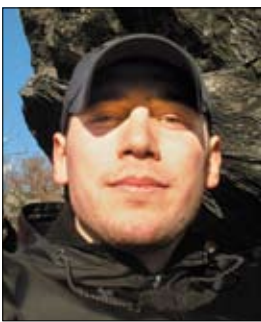
Neil A. Clark ('94 B.S. in forestry and wildlife, '98 M.S. in forestry) received the Appalachian Society of American Foresters (ApSAF) 2009 Young Forester Leadership Award, which recognizes

outstanding leadership by a young professional in the field of forestry. The ApSAF is composed of professional foresters and forest technicians from Virginia, North Carolina, and South Carolina. In his position as Extension forester for Virginia Cooperative Extension's southeast district, Clark is responsible for educational outreach to citizens, the forest products industry, and landowners. An active ApSAF member, Clark has served as the chair for the Southeast Virginia Chapter, as secretary/treasurer for the Virginia Division, and as co-chair of the ApSAF 2009 winter meeting. Neil and his wife, Laura ('94 B.S. in psychology), live in Suffolk, Va., and are enjoying the toddlerhood of their daughter, Evelyn Grace.



Gerald Foltz ('70 B.S. in forestry) received the Appalachian Society of American Foresters 2009 Volunteer Service Award. In the last 17 years, Foltz, has played a major part in raising nearly \$1.5 million for his two favorite organizations: Log a Load for Kids and the Holiday Lake

4-H Educational Center. He helped initiate the Lynchburg chapter of Log a Load for Kids, a nationwide campaign through which loggers and others contribute to local Children's Miracle Network-affiliated hospitals to provide medical care to kids in need, and continues to be a driving force in its efforts. He was a member of the Holiday Lake board of directors for 6 years and serves on its natural resources committee. Foltz, who recently retired from MeadWestvaco after 40 years of service, has been active in both the Society of American Foresters and the Virginia Forestry Association throughout his career, as well as devoting time and effort to other organizations such as the Virginia Reforestation of Timberland Board, the Forest Resources Association, the Appomattox Lions Club, and the Appomattox Presbyterian Church. Foltz and his wife, Dianne, who live in Appomattox, Va., have three children and five grandchildren.



Steven Quagliata ('08 B.A. in geography) received second place at the 2009 Virginia GIS Conference Professional Poster Competition. His poster, entitled "Utilizing Ancillary Data and Landsat Image Transformations to Identify Likely Wetland and Potential Wetland Loss," portrayed his

strategy of capturing and manipulating satellite images of wetlands in order to monitor the effects and potential effects of wetland field work. "Given the importance of wetlands to the natural environment, determining an efficient way to depict their loss can be a useful method to study them over long periods of time," Quagliata explained. His strategy uses a particular feature of GIS software that optimizes vegetation data and can measure the vegetation, soil, and interrelationship of soil and canopy moisture. These automated measurements drastically reduce the time it would take to analyze and interpret manual photos, thus reducing total project cost. Quagliata currently serves as a GIS technician at the college's Conservation Management Institute.

Hokie Hero



Virginia Tech Corps of Cadets alumnus **Col. Tom Lantzy** ('86 B.S. in forestry and wildlife) was selected as the Hokie Hero for the Virginia Tech versus Duke football game on Oct. 23, 2010. The Hokie Hero program, which honors corps alumni who are currently deployed, highlights heroes during the radio broadcast of Virginia Tech football games, on the websites of the corps and corps alumni, and in the *Corps Review* magazine.

Lantzy, originally from Big Flats, N.Y., is currently stationed at New Kabul Compound, Afghanistan, as a member of the 335th Signal Command, U.S. Army. He is on his fourth combat deployment, serving as the director of communications infrastructure commercialization in support of U.S. Forces in Afghanistan. Lantzy sends his love to his wife, Sharon ('87 B.A. in international studies and B.S. in sociology) back home in Atlanta, Ga., whose tireless support through the years have made his service possible.

Alumni Events Calendar

FEBRUARY 27-MARCH 2, 2011

National States Geographic Information Council
Midyear Meeting
Loews Annapolis Hotel, Annapolis, Md.
www.nsgic.org/events/2011_midyear.cfm

MARCH/APRIL 2011

American Fisheries Society Student Chapter
28th Annual Mudbass Tournament
Duck Pond; Time and Date TBD
Blacksburg, Va.

MARCH 14-19, 2011

Wildlife Management Institute
76th North American Wildlife
and Natural Resources Conference
Westin Crown Center, Kansas City, Mo.
www.wildlifemanagementinstitute.org

THURSDAY, MARCH 31, 2011

CNRE Awards Recognition Banquet
6:30 p.m., Squires Student Center
Blacksburg, Va.

APRIL 12-16, 2011

American Association of Geographers Annual Meeting
Washington State Convention Center
and Seattle Sheraton Hotel, Seattle, Wash.
www.aag.org/cs/annualmeeting

MAY 16-18, 2011

11th International Conference on Wood
and Biofiber Plastic Composites
Monona Terrace Community and Convention Center,
Madison, Wisc.
www.forestprod.org

FRIDAY, MAY 13, 2011

Graduation Exercises
and Graduate Student Graduation
Details TBA; Blacksburg, Va.

SATURDAY, MAY 14, 2011

College of Natural Resources
and Environment Graduation Exercises
Details TBA; Blacksburg, Va.

Bhutan, a small Buddhist country sandwiched between China and India, is filled with landscapes ranging from thick rainforests to rugged Himalayan peaks. Access to outsiders, though, is limited. Researchers are permitted by invitation only; tourists are subject to low annual visitor quotas and must pay a \$200-per-day fee.

Wultsch worked with her scat detector dog, Bruiser, tracking fecal remnants of tigers, clouded leopards, and other big cats in Royal Manas National Park in southern Bhutan. Her work was featured in the first episode of the three-part BBC documentary, *Lost Land of the Tiger*, which aired in September.



A banner welcomes participants to the workshop in Bumthang, Bhutan.

Two researchers from the Department of Fisheries and Wildlife Sciences were invited to Bhutan last spring to study the country's vast biodiversity, particularly its elusive and endangered big cats. Associate Professor Marcella Kelly was selected to join a research effort by the Ugyen Wangchuck Institute of Conservation and the Environment (UWICE) owing to her expertise in designing wildlife studies. The BBC Network sought out doctoral student and Fulbright Scholar Claudia Wultsch for a documentary it was producing because of her expertise in tracking of large cats using scat detector dogs and genetic sampling methods.

Wultsch found evidence of high species diversity, including tigers, clouded leopards, Asiatic black bears, elephants, and many other wildlife species. Because tigers are elusive and rare in the wild, locating them and their prey — mostly sambar deer — requires survey methods such as scat detector dogs and remote camera traps. "Both are noninvasive techniques used to monitor difficult to study species," remarked Wultsch. "All scat samples collected during the expedition were handed over to Bhutanese wildlife officials to support ongoing genetic monitoring within the country. Scat collection allows us to find large enough sample sizes to study elusive species such as Bengal tigers existing across isolated habitat fragments."



Claudia Wultsch with her scat dog, Bruiser.

In Bhutan, Kelly designed studies and taught workshops about research techniques such as study design for remote camera surveys of big cats, including tigers and leopards. Her workshops also included data analysis and strategies for using remote cameras in the country's mountainous landscapes.

Wultsch speaks warmly of her experience in a country few are privileged to visit. "The Bhutanese people were extremely friendly and put a lot of effort into the country's wildlife," she explained. "The locals have a great attitude towards all living creatures and respect nature."

"We wanted to make sure the Bhutanese were comfortable with the research techniques. The field biologists there were already great with placing cameras in the forest and knew a lot about the cats and environment," stated Kelly. "What they didn't know was how to analyze the photos when they came back, how to get them into a computer database, and what to do when the photos were uploaded. The main part of the research was getting them to the next step in the process of data analysis."

Over the last century, the worldwide population of tigers has decreased by an astonishing 98 percent. Poachers slay untold numbers of the magnificent creatures, selling their bones and other body parts, valued as aphrodisiacs, on the black market and leaving their remains strewn across the forest floor. As extreme levels of poaching, overcrowding, and isolation of tiger communities have pushed tigers to the brink of existence, researchers fear they will become extinct within 20 years.

Kelly was one of a number of researchers invited by the UWICE, co-sponsored by the University of Montana. Each researcher will write a book chapter on their research design and protocol for a reference book to be published in collaboration with the institute.

Bhutan is one of the main remaining strongholds for tiger conservation. Ongoing and future efforts by Bhutanese and international researchers aim to ensure successful conservation and management of this highly endangered carnivore species, which holds a special place in the culture and traditions of this remote country. "This mountain kingdom, often described as the last Shangri-La, has the potential to be one of the main areas to save tigers from the brink of extinction," explained Wultsch.



Researchers use camera traps and other noninvasive techniques to study elusive species such as tigers.



Marcella Kelly (in brown at left) explains field camera placement and camera sets to workshop participants.



Bhutan's unique architecture is evident throughout the country.

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Big Tree

Virginia is once again well represented in the National Register of Big Trees, published every two years by American Forests. Virginia ranks in the top five states, with 68 national champion trees. Virginia's biggest tree, a 12.5-foot-diameter water tupelo in Greensville County, is a new national champ, replacing a smaller one in Isle of Wight County. Virginia's smallest national champ is a four-inch Stewartia growing in Chesapeake. Notable additions this year include a new national champion rock elm at Roanoke College and this willow oak in Chesapeake.

(Photo by Byron Carmean)