



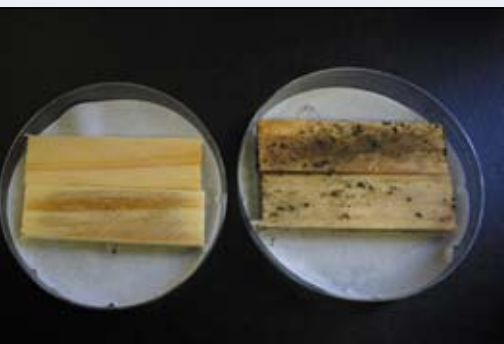
CNR NEWS

COLLEGE OF NATURAL RESOURCES
Virginia Polytechnic Institute and State University

Renneckar Files Patent for Coating Invention

Biological materials are susceptible to decay at the hands of microorganisms. To prevent or slow that decay, Scott Renneckar, an assistant professor of wood science and forest products, has developed a coating that may be applied to plant matter, especially trees, that protects to some degree against natural decomposition. Renneckar and his research group worked with a group of individuals from Virginia Tech Intellectual Properties (VTIP) to develop the new product, which will preserve organic matter for longer periods of time. They have filed a provisional patent involving such protection from biological organisms. The invention, known as Nanoscale Polymeric Organic Biocide Coating, concerns the field of physical chemistry and is particularly effective when applied to wood products.

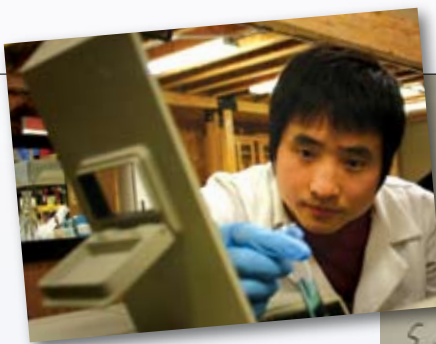
Preservatives have been around for decades; however, many of the common preservatives that have traditionally been used contained the chemical arsenic or other toxic substances. Preservatives containing arsenic were recently outlawed, so there are critical needs in the industry for new types of protection. Renneckar's invention does not contain any metals and in chemical terms is considered organic.



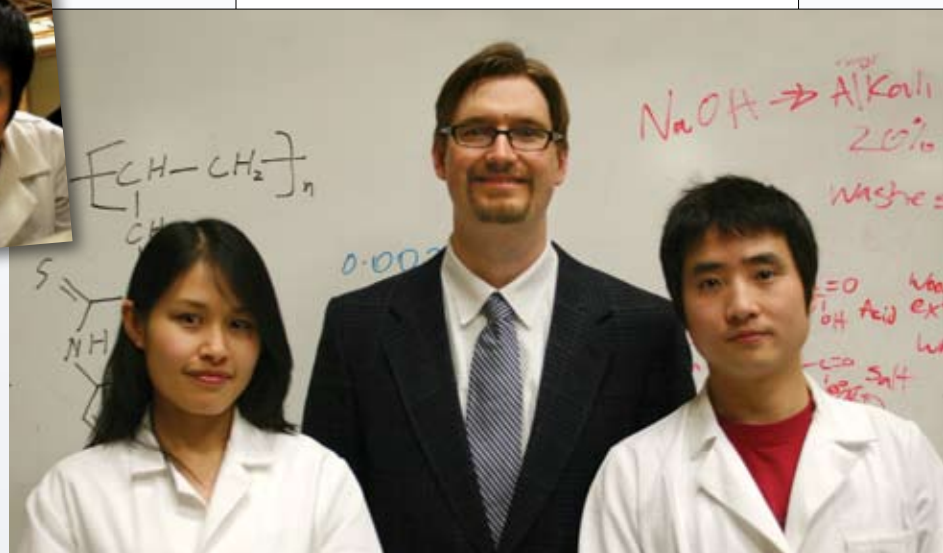
Polymer treated wood (L) and untreated wood (R) after a four-week exposure to mold.

Renneckar's invention contains polymeric compounds that adhere to wood surfaces. The coating may include one or more biocidal or biostatic agents; these agents kill invading organisms or inhibit their growth and spread at a cellular level. Mold and decay fungi are among the most common microorganisms against which the coating protects. The coating is projected to not interfere with other treatments of the product. This is especially helpful in the case of lumber, which is frequently treated to resist water damage and then painted once it becomes part of a house, deck, or other structure.

Renneckar's invention can also be applied safely. Other preservatives are frequently applied by pressure treatment, requiring special equipment. While Renneckar's coating can be applied using pressure treatment, the biocide can also be applied by soaking. The coating is generally applied to the surface of a product and over time it seeps into the product and dries, creating a



Assistant professor Scott Renneckar (C) and co-inventors Yu Zhou (L), Zhiyuan Lin (R), and Karthik Pillai (not pictured) are creating a nanotechnology platform to address performance issues of wood-based materials.



layer of protection against decay and decomposition. In fact, this material may be applied to other forms of wood, such as fibers and particles, for protection of wood particles that go into engineered wood composites like fiberboard and wood-plastic composites. Renneckar's coating can be tailored to wood particle type and applied to the surface of the product where it will bond to the product's particles, severely reducing the degree of leaching of the biocide. In support of this research effort, the Sustainable Engineered Materials Institute has allocated resources to optimize retention of the biocide based on the degree of fiber processing.

Renneckar noted, "There is a departmental effort working towards sustainability of our forest resources and our material needs by applying engineering and scientific principles to maximize the value out of every last wood fiber. Increasing the service life of wood products exposed to outdoor weather conditions works towards this goal."

The wood scientist admits that the discovery was serendipitous. He noticed that treated wood left soaking for an extended time did not have mold growing on it compared with the untreated wood samples. Mold spores are one of the most common air contaminants; where there is wet wood, mold will grow. Since the initial discovery, Renneckar and his research group have been studying the efficacy of the coatings with different decay fungi and molds under different treatment conditions. This work has been helped by the fact that White & Company Packaging Solutions, Inc., in cooperation with the Virginia Tech Center for Unit Load Design, has a testing service to evaluate the performance and effectiveness of chemical fungicides in preventing mold from growing on wood pallets.

Renneckar described the work as the tip of the iceberg in terms of how we can work with coatings a billionth of a meter in thickness to impact the performance of wood materials.

There are positive signs that other additives for fibers can impact the thermal durability as well. Renneckar believes that the process his group uses to modify wood would be adaptable to make wood that is also resistant to UV weathering. Future interdepartmental collaborations facilitated through the Institute of Critical Technology and Applied Science's renewable materials focus group are planned to explore these possibilities.

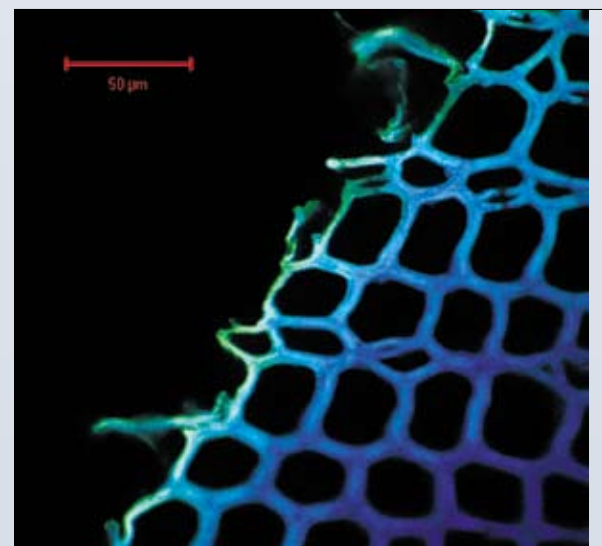
Renneckar and his research team spent over a year developing and testing the polymer coating.



In the lab, analytical equipment is used to quantify the uptake of the polymer coating into the wood.



The efficacy of the polymer coating is evident in these wood block test samples. L-R: Wood block prior to fungus exposure, untreated block, and treated block after 12-week exposure.



The polymer coating, which appears green in this cellular image of the wood surface, creates a durable layer of protection against decay and decomposition.

FROM THE DEAN’S PERSPECTIVE

Benchmarks, metrics, outcomes, goals, and products are all words that we commonly use in today’s world as we attempt to describe and assess the impacts of our actions. We take great pride in the fact that, year in and year out, we are viewed as one of the best, if not the best, colleges of natural resources in the country. “Best” is one of those fuzzy descriptors that can mean different things to different people. In our case, I feel that three things — quality, innovation, and relevant results — help define who we are and the qualities that number us among the best.

Quality is at the heart of what we do and who we are. We have faculty and staff of the highest quality who work tirelessly to provide the best educational experiences possible for our students. The quality of our students and their training is borne out by employer demand as they complete their degree programs; in many programmatic areas we have more requests than we have students available to meet those requests. Experience has shown these students will go on to have very productive and rewarding careers whether in the natural resource professions or elsewhere. High quality is also an attribute of our research and engagement activities. The fact that support through external contracts and grants has effectively doubled in the past four years is a strong testament to the ability of our faculty, staff, and students to do research of the highest quality. Likewise, we have launched new efforts to become a much more engaged college through our outreach and Extension programs. We are finding ways to interact with new constituencies, to seek a broader base of input as we decide on the shape and direction of new programs, and we take a much more active role in the greater mission of the university to be an engine of change and a contributor to economic vitality across the commonwealth and beyond.

Innovation is an essential requirement for success in today’s highly competitive environment. Our teachers and researchers continually look for ways to push the envelope, whether it is through new online approaches to teaching that improve learning or advanced research on the use of cellulosic compounds to deliver cancer fighting drugs in a benign manner. Contributions to economic vitality through our engagement efforts seek to address foundational issues such as education and training in combination with product and market development rather than looking for quick Band-Aid fixes that ignore underlying fundamentals. Our efforts in Southside and Southwest Virginia focused on the wood processing industry are an excellent example of an innovative engagement activity that is poised to have a real impact. The same is true of our ongoing efforts to understand the physiology of the black bear. The human health implications of this work are both exciting and potentially far-reaching.

The timely production of relevant results has been a hallmark of the various programs in our college since its inception. We continue to produce the fundamental information and insights needed to both understand and effectively manage natural resources. We have strengthened our efforts relating to important issues at the urban-rural interface, and we are positioned to take a leading role in addressing important issues relating to wildlife as vectors of disease to humans and domestic animals. At the same time we are an important contributor to the understanding of the impacts of our changing “chemical environment.” These are big issues that require the application of a broad spectrum of expertise if we are to be successful in providing the holistic understanding that is needed to address these and other issues.

At the recent honors banquet, Dean Kelly recognized the many faculty and students whose contributions to the college make it one of the best in the nation.



As our college continues to grow and evolve, it is important that we keep our eye on the important role that quality, innovation, and relevant results has played in our success. These are the attributes that have brought us to this point; they will also carry us to new heights as we move into the future.

J. M. Kelly



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Mitchell Byrd Recognized as Friend of the College

Dean Mike Kelly presented Mitchell A. Byrd and Lois E. Byrd with the Friend of the College Award at the 43rd Annual Honors Banquet. Upon presenting the award, Dean Kelly stated, “We are very much appreciative of the generous gift you have made in order to advance the programs of the College of Natural Resources.”

After graduating from Virginia Tech where he received a master’s in forestry and wildlife and a Ph.D. in fisheries and wildlife, Byrd joined the faculty at the College of William and Mary, where he has worked for over 50 years. He served as chairman of the biology department and led its transition into a nationally recognized department. Because of his outstanding academic performance, he was appointed as Chancellor Professor of Biology.

In addition to his extensive contributions at William and Mary, Byrd has spent much of his career as a wildlife scientist working to recover the threatened and endangered bald eagle and peregrine falcon in the commonwealth. He recognized the need for habitat conservation and along with the college’s wildlife professor, Jim Fraser, worked with people around the Chesapeake Bay in an effort to protect critical habitat for the species. In 1995 he founded and directed the Center for Conservation Biology. Byrd has documented the growth of the Virginia bald eagle population from 33 pairs in 1977 to currently over 600 nesting pairs. In 2007, he was awarded the U.S. Fish and Wildlife Service Recovery Champions Award for his monitoring, research, and protection of the Chesapeake Bay bald eagle population.

The Byrd’s generosity over the years includes an annuity benefiting the college and an estate gift that will establish a professorship and provide support for students studying conservation biology.



Lois A. Byrd, Mitchell E. Byrd, and Dean Mike Kelly at the 43rd Annual Honors Banquet.

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Aquatic Management Theme of Water Research Symposium

Connecting Management to Aquatic Communities was the theme of the Virginia/West Virginia Water Research Symposium, held at Virginia Tech in November. The five-day event included multiple workshops as well as more than 80 oral presentations.

The theme for the plenary session, moderated by fisheries and wildlife sciences professor Don Orth, was Water for Wildlife: Emerging Issues in Virginia and West Virginia Water. Orth moderated a panel of experts who presented case studies, research findings, and issues affecting their aquatic communities. Universities, state agencies, and private companies were represented on the panel. In addition to Orth, professors C.A. Dolloff, Richard Neves, W.M. Aust, and Bill Hopkins took part in the group sessions.

The water research symposium focused on aquatic communities.



Two Longtime Employees Retire

Fisheries and wildlife sciences lost two longtime employees when administrative assistant Linda Boothe and fiscal technician Ramona Shaver retired from the college on Dec. 21, 2007.

Boothe, who retired as assistant to department head Eric Hallerman, was hired by both Henry Mosby, the first department head for fisheries and wildlife sciences, and Burd McGinnes, the leader of the Virginia Cooperative Fisheries and Wildlife Research Unit, to serve as administrative assistant when the two units merged to become fisheries and wildlife sciences. In the next 24 years, Boothe assisted six department heads and helped more than 400 graduate students through their programs.

Shaver came to work at the college in 1997 to supplement to her employment as a school bus driver in Montgomery County. After finishing her morning bus route, she worked part-time at the college. After completing her work here, she returned her student charges safely home. The fisheries and wildlife sciences department hired her to work full time in 2000. She was senior fiscal technician for the past six years.

Boothe and Shaver have similar retirement plans. “I plan to do volunteer work and travel, visiting relatives, friends, and former students,” Boothe said. “I will be traveling more to see my children and seven grandchildren. I will also enjoy more gardening and yard work,” Shaver added.

Hallerman said both will be missed. “We are sad to see them go, but happy for their transition to a life of doing what they want. We send them off with an expression of gratitude for both their service and friendship.



L-R: Linda Boothe, Ramona Shaver.

STUDENT NOTES

Interns Get Valuable Experience in Water Quality Issues

While Virginia’s overall quality of water is much safer than in developing countries, some communities around the state still face issues that could hurt their water quality.

Last summer three Virginia college students traveled to numerous communities to help educate citizens and resolve local water resource issues as interns in the Virginia Service Training for Environmental Progress (STEP) program. The Virginia Water Resources Research Center, based at the college, sponsors the STEP program, in which interns receive training on water quality issues and technical assistance before being assigned to communities. The students work closely with a local site supervisor to help find solutions to water problems identified by community groups.

Courtney Kimmel, a master’s student in political science at Virginia Tech, managed three projects and worked with two different LandCare organizations. “I was able to get a real-time, on-the-ground perspective of how the LandCare groups work and what they are doing,” Kimmel said. At the same time, I was able to provide them with a service.

The STEP interns explain their research findings.

In one project Kimmel measured stream bank erosion and developed education materials for landowners in Roanoke and Montgomery counties about erosion-reducing practices. In another project Kimmel studied Pulaski County’s wastewater treatment systems. For her last project Kimmel surveyed Grayson County residents to get a better understanding of their concerns regarding water resources.

Kimmel said the internship “was truly a valuable opportunity for myself and for my studies.”



Natural Resources Conservation Major Wins Writing Award

Sophomore Beth Mutchler with Bob Duncan, director of the Virginia Department of Game and Inland Fisheries.

Photo by King Montgomery



Sophomore Beth Mutchler won the first place award in the Virginia Outdoor Writers Association, Inc.’s third annual undergraduate writing competition. The contest’s objective is to encourage young adults to cultivate their creative talents in writing by describing how outdoor experiences have influenced their lives. The Virginia Outdoor Writers Association, Inc. honored Mutchler by making her a guest at their annual meeting, where she read her essay “Keeping It Wild” and was presented a monetary award. Visit www.cnr.vt.edu/cnr_pdf/Keeping%20It%20Wild.pdf to read Beth’s personal account of how she learned the importance of ecosystems.

Lawson Contributes to Yosemite National Park



Assistant forestry professor Steve Lawson is assisting Yosemite National Park in El Portal, Calif., in launching a new visitor center and social science branch for the park’s Division of Resource Management and Science this spring semester. He has received a grant to cover expenses while working on this proposal. Lawson is continuing to oversee graduate students and other research projects at the college.

Steve Lawson helped Yosemite launch its visitor center and social science branch.

Orth Presents Fish Kill Findings at Workshop

Fisheries professor Don Orth presented his studies on the highly publicized fish kills on the Shenandoah River at the Shenandoah Valley Water Policy Workshop held by the U.S. Geological Survey and the U.S. Department of the Interior last fall. The objective of the workshop, held at Shenandoah University in Winchester, Va., was to develop a Shenandoah Valley Water Resources Plan, with prioritized needs to provide decision makers with the science needed so that they have the ability to better see how different policy actions might affect future watershed conditions.



Murphy Receives Edward S. Diggs Teaching Scholar Award



Brian Murphy

Brian Murphy, fisheries and wildlife science professor at the college and director of the Conservation Management Institute, was awarded a 2007 Edward S. Diggs Teaching Scholar Award.

The award, established in 1992, honors outstanding teachers who make exceptional contributions that

mutually benefit the classroom environment and the department’s academic mission. The winners each received a plaque and \$500; their departments also received \$500.

The award recipients were given an opportunity to publicly discuss an aspect of their teaching that addresses academic issues at the annual Diggs Teaching Award Scholar Roundtable and later at a seminar. Murphy’s presentation centered on the use of case-study teaching to strengthen students’ critical thinking skills and problem-solving abilities. “Case-study teaching and learning can be a powerful and engaging active-learning tool to stimulate higher-level thinking in students,” said Murphy.

Murphy is currently collaborating with colleagues at South Dakota State University and Virginia Tech on a compendium of case studies in global fisheries conservation and management to be published by the American Fisheries Society.

He Remembers When Slide Rules Were Cool

Once the instrument of choice for engineering students, mathematicians, and even NASA astronauts, the slide rule has become nearly obsolete today. It is difficult to find someone who can remember his or her first slide rule. Richard Oderwald, the college associate dean of undergraduate programs, however, is an exception.

Oderwald remembers his first slide rule to be an old plastic pickett slide rule that he bought in 1966. “I had learned to use a slide rule in high school, and thought it was a really neat gadget,” said Oderwald.

Over the years his collection has grown to over 30 slide rules in a range of sizes and shapes. He even owns an eight-foot instructor’s slide rule used by teachers before the emergence of calculators. Oderwald adds to his collection by acquiring slide rules through friends, family, and colleagues who no longer want them.

“Once, having a slide rule made you look cool; now most people don’t even know what it is,” lamented Oderwald.



Richard Oderwald displays his slide rule collection.

Remarkable Walk for Remarkable Trees

Jeff Kirwan had one last goal before his sabbatical ended last year. He wanted to walk across the state of Virginia. The forestry professor and Extension specialist had already spent much of his leave riding across the state looking at trees nominated by citizens for the Remarkable Trees of Virginia Project, which is sponsored by the college’s forestry department, the Virginia Forestry Educational Foundation, Bartlett Tree Experts, Robert H. Smith Family Foundation, Peck Family Fund, and Trees Virginia (the state’s Urban Forestry Council). He and fellow co-coordinator Nancy Ross Hugo, nature writer and lecturer, would soon be writing a fine-arts book featuring the top 100 trees nominated as special in Virginia. He thought the walk would be a great way to end the project.

“There is so much of Virginia that I had never seen, or really had the time to enjoy, despite the fact that I have lived all my adult life in Virginia and my job takes me everywhere imaginable,” Kirwan added.

He gave Hugo credit for the idea of the book, but admitted that so many historic trees are missed by the Virginia Big Tree program that it really was a no-brainer. But both of them were surprised when nearly 1,000 trees were nominated. “Some had pretty fascinating histories,” he noted.

The goal of the book is to increase the awareness and appreciation for trees, particularly those in the



communities where we live. “We have chapters on big trees, historic trees, community trees, tree places, unique (unusual) trees, and noteworthy specimens,” he said.

Kirwan started his trip in June 2007 at the Potomac River in King George County. He crossed the coastal plain the first day, the piedmont the second, and arrived in Charlottesville three days later. From Afton Mountain, west of Charlottesville, he followed the Appalachian Trail to Catawba Mountain, returning to Blacksburg on June 15, 2007. Counting two days off to nurse a few blisters, the entire trip across the state took 11 days.

The most enjoyable part for Kirwan was retracing the Appalachian Trail route he hiked with his wife during the nation’s bicentennial in 1976. The section around Three Ridges was especially memorable. “It was just as beautiful as I remembered it,” he said. “I remember thinking I need to do this hike every year, not every 30 years.”

The most remarkable tree Kirwan saw was a huge eastern hemlock literally growing on top of and out of a rock next to the Appalachian Trail. But the tree was dead; it fell victim to the hemlock woolly adelgid, an insect that literally sucks the life out of a tree. Kirwan also found a grove of white pine trees near the Lynchburg Reservoir that he had searched for several times earlier in the year, because several area residents had nominated it. “I was happy to confirm the legendary grove did exist, and the white pines we picked for the book were greater in size than described,” he said. A shingle oak — planted, loved, and cared for by past and current employees

Kirwan’s walk took him past these eastern red cedars located at the Ellwood Farm cemetery where Stonewall Jackson’s arm is buried.

Ellwood Farm, part of the Fredericksburg National Military Park, is home to this state champion Kentucky coffeetree.

of the Agricultural Research Station in Orange County — was also visited. “Though not large by champion tree standards, it is a good example of a community tree,” Kirwan pointed out.

The book will contain many photographs taken by professional photographer Bob Llewellyn.

Kirwan also has a big tree web site that recognizes the largest of each species based on a formula that includes circumference, height, and crown spread. The Remarkable Trees of Virginia project can be viewed at www.cnr.vt.edu/4h/remarkabletree/index.cfm.





RESEARCH SPOTLIGHT



SPRINGING EARLY

Due To Global Warming?

Flowers budding, woodpeckers drumming, and longer and warmer days are a few of nature's indicators that spring is in full force. Although spring did not officially begin until March 20, some spring watchers perceive signs of spring to be creeping up earlier every year. Is global warming responsible for the earlier onset of spring?

Gary Evans, director of the Natural Resources Distance Learning Consortium at the college's Capital Region campus, noted: "physiological responses to seasons are global reactions to variations in night length; the lengthening of daylight in the spring accounts for the signs associated with this season. Because global warming does not significantly affect

night length, physiological responses to seasons are not temperature induced; they are the genetic responses of living organisms.

"However, once the physiological response is induced, whether it is the formation of buds on plants or the migratory urge of animals, the rising minimum average daily temperatures will accelerate the budding, flowering, and leaf development processes, or in terms of migration, the migrating organisms may move more rapidly from their wintering grounds toward the place where they summer.

"Daylight and darkness spark the initiation of physiological processes in organisms, but the processes

are accelerated in warmer conditions; therefore, global warming causes the outcome of the physiological processes to occur earlier by speeding up the rate of the genetic responses.

"Although many people are eager for a season change after a cold and dreary winter, the earlier growth and migration patterns may eventually lead to damaging effects on the ecosystem. "Theoretically, the bud formation and response to night length may not be early enough in another 50 years to enable the plants to go through their flowering cycle before higher temperatures and perhaps drier conditions reduce the viability of the maturing seed."



Marion records his findings as he measures trail damage.

Marion Helps Shenandoah National Park Protect Trails

Shenandoah National Park could be stomped to death if measures aren't taken to protect high-trafficked trails. Jeff Marion, adjunct outdoors recreation professor in the college who also works for the National Park Service as leader of the Cooperative Park Studies Unit, headed up a large-scale project to investigate the park and protect rare plant species found in Shenandoah.

Team project members included Steve Lawson, an assistant professor in the Department of Forestry, and Kerry Wood, an employee of the Appalachian Trail Conservancy with a B.S. in natural resource recreation management from Virginia Tech.

Marion's research found that the three basic groups of park-goers are backpackers, hikers, and rock climbers, and most rare plant damage results from trampling. Hikers cause the most damage, accounting for 67 to 90 percent, because they are on the trail to see the view. They stop and linger, whereas backpackers and rock climbers do not really stop at all.

People damage trails by straying from them to get an unobstructed view. The mountaintops absorb the brunt of the damage due to the heavier volume of traffic.

Marion and his team proposed a number of solutions to be carried out by the park's administrators. Some of the smaller, informal trails have been closed, with more planned closings in the future. Campsites will be moved farther from the cliff tops, and Marion also proposed reducing the available parking to limit the amount of human traffic on the trails at one time. The park will begin to educate its visitors with help from the Leave No Trace program, which strives to teach people how to enjoy the outdoors without interfering with it. Marion and his team will help with the educational efforts. They hope to keep as much of the park available to the public as possible. Marion reminds us, "The park does not function solely as a measure of protection for wildlife, but also as a medium for people to enjoy nature."

EXTENSION AND OUTREACH

Scarpaci Receives 2008 Virginia Social Science Association Scholar Award

Joseph L. Scarpaci, a geography professor in the college and a longtime expert on Cuba, has been awarded the 2008 Virginia Social Science Association Scholar Award in Geography for expanding knowledge in the field of geography.

Additionally, Scarpaci, who was named to the editorial board of the *Southeastern Geographer* in late 2007, has accepted the position of regional editor for the Library of Congress's distinguished *Handbook of Latin American Studies*, an annotated bibliography in print and electronic format that includes citations from a network of scholars throughout the country. Scarpaci is the new contributing editor for the section on Geography: Caribbean Area. Eleven of his publications are included in the handbook.

Scarpaci studied public-private water and waste partnerships in Haiti and the Dominican Republic this past year. Thanks to generous donations from the Free Clinic of the New River Valley in Christiansburg, Va., Scarpaci was able to donate 80 pounds of anti-diarrheal medication to the Portland, Maine, based nongovernmental organization Konbit Sante, which operates the primary medical clinic in Cap Haitien, Haiti.

Joseph Scarpaci (R) delivers donated medications to a medical clinic in Cap Haitien, Haiti.

Scout's Honor: The Resource Ramble

Jeff Marion is too old to be a Boy Scout, but don't tell him that. When he's not teaching graduate students in the college about outdoor recreation, Marion works with the Boy Scout Conservation Committee. Together they are arranging a project called the Resource Ramble to discover what makes up the region's flora and fauna.

Similar in nature to a "BioBlitz," the Resource Ramble seeks to inventory the natural and cultural resources found on the Blue Ridge Scout Reservation. The reservation, in Pulaski County, Va., spans 17,500 acres, making it the largest expanse of land owned by a Boy Scout council in the United States.

In mid-April, biologists, geologists, archeologists, and other resource professionals will run rampant through the reservation for an entire weekend trying to locate and identify as many species of plants and animals as they can. BioBlitzes are generally organized for this purpose in natural parks and similar areas. The Resource Ramble differs from those blitzes because it is a volunteer project being overseen by the Blue Ridge Mountains Boy Scout Council.

Jeff Marion is an adjunct professor with the Department of Forestry and has been with the university since 1989. Marion was not the only university resource asked to participate; additional invitees hail from other departments at Virginia Tech as well as from other area colleges and universities.



EXTENSION AND OUTREACH

Haas Sees Locally Grown Foods Offering Environmental Benefits



Carola Haas

Georgia peaches, Idaho potatoes, and Florida oranges are all famous for tasting great. In Virginia, Hanover tomatoes are well known for their quality. Carola Haas, an associate professor in the Department of Fisheries and Wildlife Science, wants to know what makes them so special as she collaborates on a project aimed at improving the image of locally grown

foods and sustaining local agriculture production while improving the environment.

She has been working with graduate student Nick Rose and assistant professor Elana Serrano in Human Nutrition, Foods, and Exercise (HNFE) in the College of Agriculture and Life Sciences, to provide information for people about how to cook and eat locally grown foods.

Agricultural production in Southwest Virginia could eventually become threatened if some trends are not reversed. Their green pastures must be preserved for agriculture. The research team hopes that educating people will elicit more support for protecting these lands.

Compared with residential and industrial land, agricultural lands boast greater protection from flooding and improved water quality. Haas noted, “Many native grassland species such as bog turtles, Henslow’s

sparrows, and bobwhite are declining because of the loss of suitable habitat—habitat that used to be maintained on local farms.”

Growing foods locally also offers the potential to reduce global warming. Trucks travel from across the nation to deliver foods to area supermarkets, and they burn considerably larger quantities of fossil fuels than they would if they were delivering foods that were grown in the region.

In recent years, Haas had an undergraduate class create a brochure for students advocating the purchase of local foods. Rose and several undergraduates created recipes to go along with the local food items sold at the Blacksburg Farmer’s Market. They are working through the Montgomery Museum and Lewis Miller Regional Art Center to preserve local foodways through the community cannery (www.montva.com/departments/ext/cannery.php).

DEVELOPMENT HAPPENINGS

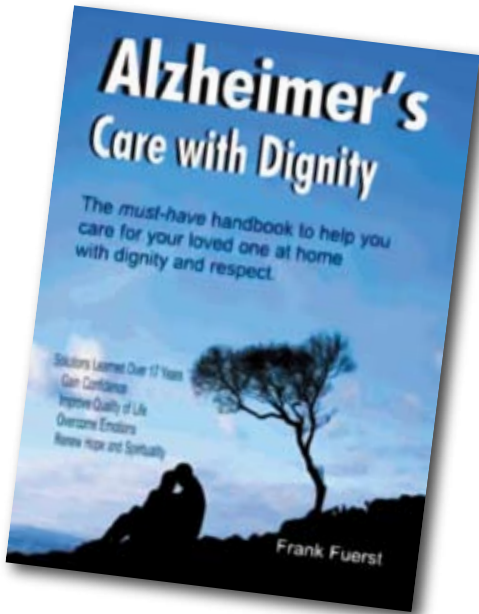
Hokie Parent Continues Sharing

It was 1984 and Jeffrey Fuerst was at the top of his undergraduate class in the college. He had enrolled as a graduate student in fisheries and wildlife, and was working as a research assistant that summer after graduation when he was killed in a collision on Prices Fork Road in Blacksburg.

Jeffrey’s father, Frank Fuerst, wanted his son to be remembered, so he established a scholarship in Jeffrey’s name. The scholarship seemed like an appropriate way to remember Jeffrey, who was a dedicated student. The award, which is still being given out today, was designed for students in forestry with a grade point average of 3.4 or higher. Fuerst has met many of the recipients over the years and is glad he can give back to the school his son loved so much.

Fuerst has also written a book about his 17 years as a caregiver for his wife, June, who suffered from early-onset Alzheimer’s. *Alzheimer’s Care with Dignity* is written from a caregiver’s point of view, because Fuerst found such books severely lacking when he needed them most. Fuerst, who retired early from a successful sales and marketing career at IBM to be his wife’s primary caregiver, credits respite workers with his being able to care for his wife at home until her death in 2000. Now he wants others in similar circumstances to know there may be a way they can do the same.

“I am happy to give back to other caregivers so that they may continue to keep their family member at home if they choose,” said Fuerst, who lives in Warrenton, Va. For more information on Fuerst’s book, visit www.dementiacaregiving.com.



Hokie parent Frank Fuerst wrote *Alzheimer's Care with Dignity* after caring for his wife for 17 years.

ALUMNI UPDATE

Smithsonian Curator Speaks at College

Walter Adey, Smithsonian curator and research scientist for the National Museum of Natural History, gave a seminar entitled “The Environmental and Energy Potential of Algal Turf Scrubber (ATS) Systems” for graduate students last winter. Alex Miller, a fisheries and science graduate who spent several summers doing research with Adey and his team studying the Subartic/Arctic distribution of seaweed species based on biomass, helped arranged the seminar. Miller is currently a graduate research assistant in environmental economics and will complete work on his master’s thesis early this summer. He has accepted a position as the staff economist for the Gulf States Marine Fisheries Commission in Ocean Springs, Miss., beginning at the completion of his studies. Miller also plans to continue working with Adey on independent projects as time allows.

L-R: Walter Adey and Alex Miller



ALUMNI NEWS



Refugees in Menawashi, Darfur. Photo by Brian Steidle

Brian Steidle, ‘99 B.S. in forestry, has received national attention for his photos documenting the genocide in Darfur. After graduation, Steidle was commissioned as an infantry officer in the Marine Corps. He later joined the Joint Military Commission in Sudan working on the North-South cease-fire, where he was promoted to senior operations officer. In September 2004, Steidle was commissioned to work in Darfur as an unarmed military observer and U.S. representative with the African Union.

During his stay, he took hundreds of photographs documenting the inhumane acts imposed by the Sudanese government on the Darfuri people. Steidle felt compelled to let the world know of the Darfur atrocities and made his photos public on his return to the United States last year. Steidle’s story and photos have been featured in national publications

such as *The Washington Post* and *USA Today*. Visit www.ushmm.org/conscience/analysis/bios.php?content=steidle_brian for more information.

Jim Stief, a 30-year employee of Davey Tree Expert Company in Kent, Ohio, has been promoted to general manager and vice president in the residential/commercial service line. Stief attended what was then the Virginia Tech School of Forestry from 1974 to 1979.

Stief began his career with Davey while attending the college and working in its co-op program in Pittsburgh, Penn. Before moving to Ohio, he also worked at company locations in Atlanta and California.

College of Natural Resources Announces Alumni Ambassador Program

As it has often been said, “choice” not “chance” makes up a person’s destiny. Never have I found that to be a more true statement than when I made the great choice to become a Hokie at Virginia Tech. I am sure many of you reading this would agree, and like me, may even wonder at times just where your life would be had you not made that other wonderful choice — to be a part of a great academic tradition by becoming a graduate of the College of Natural Resources (CNR). To celebrate that choice and your affiliation with the college, I invite you to join me, and others, by becoming a CNR Alumni Ambassador!

Choosing to become a CNR Alumni Ambassador is easy. By making a small minimum contribution of \$25.00 to our CNR Alumni Scholarship Fund, you will receive a commemorative lapel pin that I invite you to wear proudly to help share with others the many successes of our college. In addition the pin will help to serve as a constant reminder to promote the opportunities available in natural resources careers at Virginia

Tech. Your active involvement will also go a long way in helping the college attract quality students, which might shape the future of our many academic and research programs.

Today, with global populations on the rise, students and professionals who are able to understand and better manage our limited natural resources have never been more important. By choosing to become a CNR Alumni Ambassador you have a real opportunity to not only give back to your college, but also help to encourage the needed attention to this valuable global field of study.

To learn more about becoming a CNR Alumni Ambassador, please contact Patricia Foutz at 540/231-2512 or pfoutz@vt.edu.

Travis Hardy, 2001 Geography
President, CNR Alumni Board of Directors



The college’s alumni ambassador pin.



Copeland Works in the Wilds of Idaho

Tim Copeland, '05 Ph.D. in fisheries and wildlife, who took an inventory of the fisheries resources at Fort AP Hill and developed a management program while at the college, has continued his endeavors out west. He is the senior fisheries research biologist for the Idaho Department of Fish and Game and the project leader for research concerning the production of Chinook salmon and steelhead trout in the wilds of Idaho.

Copeland enters data in the Selway-Bitterroot Wilderness, which straddles the Idaho-Montana border.

“These fish are listed as threatened under the Endangered Species Act,” noted Copeland. The goal of his project is to understand the species’ population dynamics and the factors that affect them within the state of Idaho.

“I believe our natural resources are becoming more and more precious as our population grows, so conservation is extremely important,” explained Copeland. “The central Idaho wilderness is a pretty awesome place to work. The combination of field work and intellectual challenge from my job is very appealing.” Copeland lives in Idaho with his wife Sylvia, '04 M.S. in fisheries and wildlife.

Tobacco Documentary Shown Nationwide



Jim Crawford

All public television stations in Virginia and in more than 50 cities nationwide aired Jim Crawford’s Down in the Old Belt: Voices from the Tobacco South in recent months. Crawford, who received a master of science in geography from the college in 1995, spent several years filming the documentary, which was shown to Virginia legislators last year and premiered on campus two years ago. “Nearly half of the nation’s households (219 stations) had the chance to watch the documentary on several occasions,” Crawford said. “The geographic distribution is interesting. It included 12 of the top 20 markets in the country.” American Public Television picked up the film from the sponsoring station, WHTJ in Charlottesville.

Crawford’s heart-rending film revealed the state’s tobacco history as interwoven in the lives of Virginians from Jamestown to the buyout program several years ago. Tobacco was the essence of life for many farmers; when it faded away, so did a culture that was a way of life for many generations. Crawford spent several years taking oral histories of 26 Old Belt tobacco-farming families for the documentary.

“I’ve received hundreds of notes and personal remembrances since the documentary came out,” Crawford noted. “It is a story everyone should hear.” Maybe Congress next?

Forestry Graduate Professor of the Year at Humboldt

Carolyn Widner Ward, who received both her master of science and Ph.D. in forestry with a specialization in outdoor recreation from the college, has been named the Outstanding Professor for 2007 at Humboldt State University in Arcata, Cal. Ward, an associate professor of environmental and resource sciences since 2003, teaches environmental interpretation. She has trained many state and federal park employees who work in the nearby redwood forests and prepare the cultural signage for public visitors.

Ward, who grew up in Virginia’s Blue Ridge Mountains, looks at teaching from a unique perspective. “Teaching is not simply communication or a science, but should be considered an art,” she explained. She incorporates four elements in her classes. “The elements of themes, hands-on experiences, relevant information, and an enjoyable environment help me to become a more effective teacher. As a teacher, the greatest gift I can bestow to the world is a path through which to know.”

A certified interpretive trainer for the National Association for Interpretation, Ward is also editor of the *Journal of Interpretation Research*. Her research focuses on environmental education as well as interpretation research, and she recently published her first book, *Conducting Meaningful Interpretation: A Field Guide for Success*.

Ward credits forestry professor Joe Roggenbuck with helping her achieve this prestigious award. “It would not have been possible if not for him,” she said.

Ward received her undergraduate degree from Emory and Henry College in Abingdon, Va.

Carolyn Widner Ward



Upcoming Alumni And Friends Receptions And Special Events

MONDAY, JUNE 23, 2008
Alumni and Friends Reception
Forest Products Society
62nd International Convention
6-7:30 p.m., Hyatt Regency
St. Louis at Union Station, St. Louis, Mo.

AUGUST 17-21, 2008
Alumni and Friends Reception
138th Annual Meeting of the
American Fisheries Society
Details TBA, Ottawa, Ontario

SEPTEMBER 15-19, 2008
Wood Week, Blacksburg, Va.
For events and locations,
see www.woodscience.vt.edu

SATURDAY, NOVEMBER 22, 2008
Homecoming and Tailgate
3 hours before kickoff
Cheatham Hall, Blacksburg, Va.
For details to register or request football
tickets, see the Reunions and Events
link at www.alumni.vt.edu

A group of ring-tailed lemurs, just one of many endangered species found in Madagascar.

Preserving Madagascar Wildlife Is Her Passion

Sarah Karpanty, an assistant professor in the Department of Fisheries and Wildlife Science, has a dream. She wants to see Madagascar areas destroyed by logging reforested, and natural habitats for lemurs and other wildlife she studies restored. Karpanty is no stranger to the island, off the southeastern coast of Africa. She first visited the country as an undergraduate, where she met the famous conservationist, anthropologist, and lemur expert Patricia Wright. She later returned to Madagascar to study under Wright’s tutelage as a graduate student.

Today Karpanty studies predation; the primary animals she observes are lemurs, fossas, and avian raptors such as hawks and eagles. A main focus is to learn “how natural predation processes may influence the long-term conservation of endangered lemurs in the highly fragmented forests of Madagascar.”

One of the focal points of Karpanty’s research involves territory. She studies the size of the animals’ hunting ranges and how much ground they cover daily. She also examines how territory size impacts the populations of the predators and their prey.

Karpanty also spends her time in Madagascar on a related project. Due to logging of Madagascar’s rain forests, many animals have had their habitats reduced. In 2000, Karpanty began working on an idea for a reforestation project that would plant new trees and rebuild the lost habitats. Wright helped her raise money for the project.

Karpanty’s plan starts with educating local communities in Madagascar about the necessity of replenishing and restoring the forest. She then would demonstrate how they could plant and care for new trees. Karpanty’s wish is that one day she will be able to scale this project up so that people will support it across the nation.

Last fall the professor took her first student, Charles “Chaz” Crawford, to Madagascar with her. They did a pilot study that trapped animals to determine population density. Karpanty hopes to have a full-scale study abroad program running in Madagascar by 2009.

*Verreaux’s sifaka, **Propithecus verreauxi**, is a lemur that lives in southwestern Madagascar and was frequently found in the diet of the Madagascar harrier-hawk, studied by Karpanty. These animals may be very vulnerable to predation when they are sunning themselves in the mornings and playing in the afternoons.*



The red fronted lemur is one of many animal species Karpanty works with in Madagascar.



A goshawk is outfitted with a radio tag so that its movements can be tracked.



Sarah Karpanty



April 16 remembered
- with a moment of silence
and the Virginia flag flying half
mast at Burruss Hall.

