



Sunlight breaks through the canopy of the natural forest in Nepal.

## Hammett Builds Forestry Education Legacy in Nepal

COLLEGE OF NATURAL RESOURCES  
Virginia Polytechnic Institute and State University

Many people have heard the proverb “give a man a fish and feed him for a day, teach a man to fish and feed him for a lifetime.” Virginia Tech associate professor of forest products marketing, Tom Hammett, has applied this principle throughout his career in his work in Nepal. Hammett has a long-standing affiliation with Nepal that dates back to 1974 when he worked with the Peace Corps as a research and extension technician. Over the next 34 years Hammett deepened his relationship there, working as a technical training coordinator in 1977, volunteer leader in 1978, technical coordinator for agriculture and forestry in 1989, Nepal Country Representative in 1990, international consultant in 1994, and in 1995 as Chief of Party (team leader) and senior advisor directing a project funded by the U.S. Agency for International Development (USAID) to develop Nepal’s two-campus Institute of Forestry.

Today, Hammett serves as Virginia Tech’s coordinator for international programs in the College of Natural Resources. Currently his main work is through the Memorial Center of Excellence at Nepal’s Institute of Forestry.

Nepal is a landlocked country nestled between the borders of China and India containing 147,181 square miles of diverse terrain. Yet regardless of its sundry landscapes, Nepal is noted as one of the most impoverished and under-developed countries in the world, with a third of its population living below the poverty line. The mainstay of Nepal’s economy is agriculture, which employs 90 percent of the population, primarily in small subsistence farming. “Nepali people have a daily relationship with the forest, something we have lost,” Hammett explained. Yet despite this relationship, Nepal’s agricultural well-being is declining due to the influences of deforestation, lack of farming technology and education, loss of soil fertility, and erosion. The Nepalese rely on the land for their livelihood, but with the deterioration of the landscape, many are struggling to find ways to survive.

Hammett with a local Nepalese woman.



Hammett’s work relies on the cooperation of many partners.

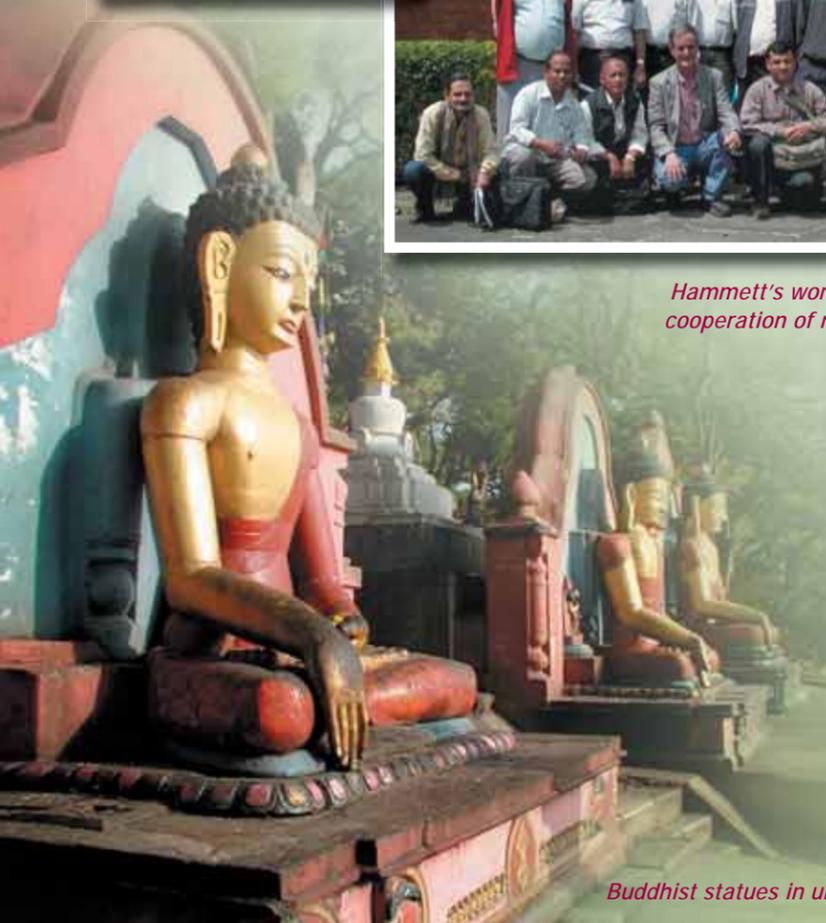
Hammett outside the Memorial Center for Excellence in Nepal.



Hammett’s work with the Institute of Forestry in Nepal and the Memorial Center of Excellence provides an answer. In September 2006 a helicopter crash took the lives of 24 of Nepal’s leading natural resources conservationists. The Memorial Center of Excellence was created as a tribute to their lives and work. The venture is a three-year collaborative project coordinated by Virginia Tech in partnership with Yale University, Principia College, and the World Wildlife Fund. Funded by a \$400,000 grant from USAID through the independent agency Higher Education for Development and nearly \$200,000 in contributions from Virginia Tech, the project seeks to promote excellence in forestry research and education through the implementation of 21st century conservation techniques in research and training. At the center, academic and career mentoring programs are offered to students from less advantaged backgrounds, lower castes, and remote areas, with hopes to educate future professionals in conservation.

Hammett’s expertise in forestry specializes in niche markets, small forest-based enterprises, and forest product certification. One of Hammett’s major successes is the development of niche markets for non-timber forest products (NTFP’s), any plant-based material of commercial value other than trees that can be cultivated from forests. Hammett has implemented successful projects focused on the utilization of NTFP’s for niche markets in the Appalachian region, South and Central America, and Africa. With his experience and skills, Hammett is passing on vital knowledge that allows the Nepalese to properly manage their resources, creating the potential for local communities to generate significant economic activity, job security, and the improvement of their overall livelihood.

Hammett hopes that by harvesting products such as ginseng, mushrooms, cones, and herbal medicines, Nepal’s small forest-based businesses can reach international markets. By cultivating NTFP’s, the Nepalese deter deforestation, prevent erosion, improve soil fertility, increase sustainability, and maintain Nepal’s elaborate ecosystem, a main draw for tourism, a key source of foreign exchange for the country. The work that Hammett and the Memorial Center for Excellence provide to Nepal is not only essential for the future well-being of Nepal, but also embodies Virginia Tech’s motto *Ut Prosim*, “that I may serve.” “We strive towards giving the local people economic security while promoting respect for the majestic natural environment of Nepal,” Hammett said.

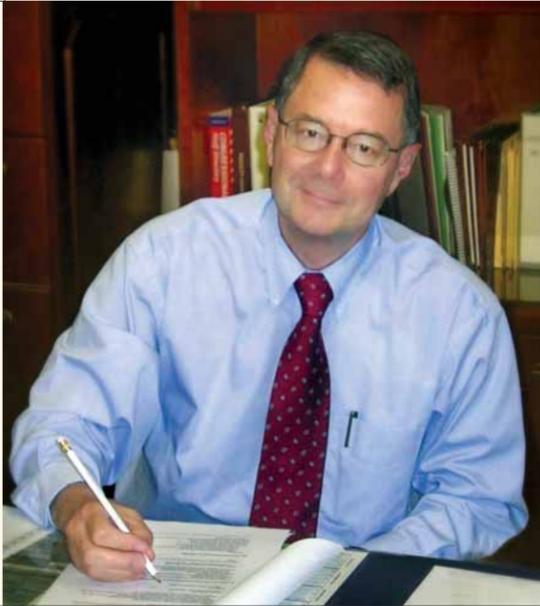


Buddhist statues in urban Nepal.



Mountainous terrain of Nepal.

FROM THE DEAN'S PERSPECTIVE



Graduation is always a time of celebration at any university and this was especially true for the Virginia Tech Class of 2008. The special bonds formed in the aftermath of our tragic loss in April of 2007 were very much in evidence in both the preliminary events and the graduation ceremony. The hours leading up to the ceremony at Lane Stadium were marked by dark skies, blustery winds, and a high degree of anxiety about the viability of an outdoor ceremony. As the appointed hour approached, the dark clouds began to part and the cold winds began to subside. This sequence of events was very symbolic of the dark and uncertain period that followed the events of April 16, but more importantly, the lifting of the

clouds symbolized in very real terms the beginning of a return to some degree of normality as we seek to move forward in our altered world. Our university graduation speaker, Ms. Hoda Kotb, could not have provided a more appropriate and inspiring message to the graduating class – a message emphasizing perseverance, hope, and the value of relationships. The Saturday morning college convocation marked the dawning of a new day both literally and figuratively, rich with sunshine and opportunities as we sent 90 fresh graduates off with fond memories and best wishes.

A preliminary survey of our graduates indicates that in spite of the current downturn in the economy, the job market remains strong for most of our programmatic areas, with more than 64 percent of our graduates reporting having a job in hand or plans to pursue a graduate degree or other options. We are pleased that a number of our graduates have decided to strengthen their credentials through the pursuit of a graduate degree. These students will play a very important role in providing future leadership for academia and government agencies. I am sure that you will join me in wishing all members of the Class of 2008 the best as they embark on the next phase of their careers and lives.

The current success of our programs and our students is tied in many ways to earlier gifts from generous alumni and friends. As we seek to strengthen and grow our ability to "Invent the Future" for coming generations, we must expand our base of financial support. As a part of the

ongoing Campaign for Virginia Tech, the college has identified three very important projects intended to enhance our ability to serve our students and our statewide constituencies. All three of these projects involve the creation of new infrastructure to support and expand our teaching and research programs. First is a new or expanded teaching and research building for the Department of Wood Science and Forest Products. Second is a new wildlife research laboratory designed to allow us to continue our unique studies of bears and other large mammals, as well as to help us to explore further the human health aspects of this innovative work. Finally, and certainly not least, is the construction of a combined field research laboratory and classroom facility at the Fishburn Forest just outside of Blacksburg. We are seeking major donors for each of these projects. If you would like to make a lasting contribution that will have a real impact on the future of our college and generations of students yet to come, please contact me and I will be happy to provide further information.

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*

Reed, Cahill, and Barrett Named Outstanding Alumni

This spring's 43rd Annual Honors Banquet at Virginia Tech's German Club recognized some of the college's exceptional alumni. David Reed received the Outstanding Alumnus – Career Achievement Award, Kerri Cahill the Recent Graduate Alumnus Award, and Scott Barrett the Recent Undergraduate Alumnus Award by the College of Natural Resources and the Virginia Tech Alumni Association.

While presenting him with the award, Dean J. Michael Kelly emphasized Reed's "remarkable career in biometrics," as well as his "excellence in undergraduate teaching at Michigan Tech."



David Reed

Reed earned master's degrees in forestry and statistics and a Ph.D. in forest biometrics from Virginia Tech, and in 1982 went on to become a respected professor and researcher at the School of Forestry and Wood Products at Michigan Technological University. He has also acted as vice president for research, dean of the graduate school, provost, and vice president of academic affairs at Michigan Tech. Additionally, Reed has been the author or co-author of over 130 technical publications, has served on over 100 graduate student committees, and as been the principal investigator or co-investigator on funded research projects totaling \$10 million.

"I am very appreciative and deeply humbled," Reed said as he accepted his award. "While a lot of things have changed since I've been here, I have very fond memories of Virginia Tech."

Recognized for her early career accomplishments and service to the university, Cahill received her Ph.D. from Virginia Tech in 2003 from the Department of Forestry in recreation resources management. Upon

her graduation she was employed as a park planner with the National Park Service (NPS) and is now recognized as the "go-to" person regarding carrying capacity (the maximum population size that can exist in an ecosystem given the limits of its natural resources) decision-making among NPS planners and park superintendents. Specifically, Cahill has authored portions of the NPS Planning Guideline, instructed at NPS planning workshops, served as lead planner for several park General Management Plans, and developed a widely used Internet carrying capacity database. While at Virginia Tech, she was a straight-A student who received a Cunningham Fellowship and the college's Outstanding Graduate Student Award. She has also authored eight publications based on her doctoral studies at Virginia Tech.

Barrett, who was also honored for his early career achievements, began working as a county forester for the Virginia Department of Forestry in King William and King and Queen counties after receiving both a B.S. in forestry in 1998 and an M.S. in industrial forestry operations in 2001 from the college. Currently, as the Virginia Sustainable Harvesting and Resource Professional (SHARP) Logger Program coordinator, he manages both the core program and continuing education classes for loggers across the state.



Scott Barrett

Barrett is also an extension associate in the forestry department and is an active member of the Virginia Forestry Association and the Society of American Foresters (SAF). He formerly served as the secretary/treasurer of the Virginia Division of SAF and is currently the chair-elect of the Blue Ridge Chapter of SAF.



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## College History Wins Award of Excellence

The college history booklet, *From Jamestown to Blacksburg: The Path to the College of Natural Resources*, has received the Award of Excellence from the Printing Industries of Virginia annual competition. Coordinated by the college's public affairs office with Virginia Tech's history department, the booklet was written by Ellen Brown, who got her master's in history at the university, with layout and design by Lisa Martin, the Reynolds Homestead's program coordinator. The booklet records history highlights of the college and how forestry was important to the state even with the Jamestown settlers. Each alumnus of the college was mailed a copy of the booklet earlier this year.

## Recruitment Good News for 2007-2008

Recruitment is a numbers game – sometimes you win and sometimes you lose. "The college is winning. Our numbers are up from last year in several key areas: applications, offers, and acceptances for both entering freshmen and transfer students," declared Judith Araman, recruitment/career coordinator for the College of Natural Resources. "June is my time to take a picture of the numbers. It's a crucial period to see how successful recruitment efforts have been. The fruits of this year's efforts are amazing. Freshmen and transfer acceptances total 94, an increase over last year's acceptances of nearly 71 percent."

Applications for this year totaled 283, with freshman making up 220 and transfers the remaining 63. From these applications, 141 offers were made, up 18.48 percent from 2007.

"I hope to add to these numbers with internal transfers from University Studies during Summer Orientation in July," Araman added. "This summer venue will give us an opportunity to speak to parents and students about the majors in the college that closely align with these students' interests."

Judith Araman,  
recruitment/career coordinator



Say hello to the future.



Meet William A. Hopkins, associate professor in the Department of Fisheries and Wildlife Science, and director of the Wildlife Ecotoxicology and Physiological Ecology Program at Virginia Tech. His pioneering research efforts have demonstrated how harmful contaminants, like those released by burning coal, make their way into the tissues of female amphibians and then to their offspring.

When you make a gift in support of the world-renowned faculty at Virginia Tech, you are inventing the future. You are supporting the next generation of scholars, scholars like William A. Hopkins, who are helping us gain a deeper understanding of how our changing global environment affects the world's wildlife.

Find out how you can invent the future. Contact us today.

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The  
CAMPAIGN  
for VIRGINIA TECH  
*Invent the Future*



# AWARDS

### A.B. Massey Honorarium

Department of Fisheries and Wildlife Sciences  
Amy M. Villamagna

Department of Forestry  
Michael C. Tyree

Department of Geography  
David E. Kramar

Department of Wood Science and Forest Products  
Omid Parhizkar

### Alumni Award for Outstanding Achievement

Department of Fisheries and Wildlife Sciences  
Koan J. Heindel

Department of Forestry  
Christopher W. Fields-Johnson

Department of Geography  
Timothy H. Brown

Department of Wood Science and Forest Products  
Jesse L. Paris

College of Natural Resources  
Christopher W. Fields-Johnson

### Outstanding Sophomore Scholar Award

Daniel Schultz

### David Wm. Smith Award for Outstanding Service

Joshua C. Johns, forestry

### Outstanding Science Award

Emma E. Pemberton, forestry

### The Curriculum Clubs' Outstanding Member Awards

American Fisheries Society  
Meghann Vincie

Fisheries and Wildlife Graduate Student Association  
Thomas A. Gorman

Forestry Club  
Scott E. McKee

Forestry Graduate Student Association  
William Aaron Pratt

Forest Products Society  
Adam Scouse

Natural Resource Recreation Society  
Sara B. Murrill

Society of American Foresters  
Heidi M. Metz

Urban Forestry and Arboriculture Student Society of Virginia Tech  
Ethan B. Crockett

Virginia Tech Wildland Fire Crew  
Keith R. Snead

The Wildlife Society  
Christopher E. Latimer

Xi Sigma Pi  
Nathan J. Lambert

### Mitchell Byrd Outstanding Alumnus

Mitchell Byrd, who received the Friend of the College Award at the awards banquet, was honored with the Virginia Tech Outstanding Graduate Alumni Achievement Award at the May graduate commencement. He received both his M.S. and Ph.D. from the College of Natural Resources. Byrd has spent the majority of his career at the College of William and Mary, where he previously served as professor, chairman of the biology department, and chancellor professor of biology. Additionally, he was the founder and director of the Center for Conservation Biology. Byrd has also done landmark work in the recovery of species facing possible extinction, such as the bald eagle and eastern peregrine falcon.

### Christine Bergeron Youngs Award for Writing

Fisheries and wildlife graduate student Christine Bergeron received the Robert L. and Esther S. Youngs Award for Excellence in Written Contribution to Natural Resources. The annual award honors a current student in the college who authors a scientific paper that demonstrates excellent scientific writing and contributes to the advancement of understanding any aspect of the management, utilization, conservation, or socio-economic effects of natural resources. The paper must also meet the standards for publication by a recognized scientific journal.

## Tree Planting in Blacksburg Neighborhood



(L-R) Michael Bense, Christine Cho, and Elyssa Klopfenstein work at the tree-planting project in Blacksburg's Shadowlake Village.

Photo by Donna Belay, courtesy of Alan Rafla

Five students in Xi Sigma Pi, the College of Natural Resources Honor Society, helped plant nearly 50 trees along a public bicycle path in Blacksburg's Shadowlake Village this spring. Students Josh Johns, Michael Bense, Christine Cho, Matt Foley, and Elyssa Klopfenstein helped neighborhood residents plant blackhaw, downy serviceberry, and red-bud seedlings on a construction-impacted and erodible slope adjacent to the community bike path.

Professor John Seiler, who advises the Honor Society, suggested the student group to neighbor-

hood resident Alan Rafla, a research associate at the Virginia Water Resources Research Center, and provided advice on species selection and planting. Several other college faculty and staff also provided helpful suggestions.

The students' hard work got the trees in the ground just before timely rain showers arrived. The neighborhood was grateful to have the Honor Society's help and hopes to collaborate with the group on another tree-planting project in 2009.



## DeMeglio Completes Appalachian Trail Hike

Wildlife science student Jameson DeMeglio joined the elite group of "thru-hikers" by hiking the entire Appalachian Trail last summer, 2,175 miles from Springer Mountain, Ga., to Mount Katahdin, Maine. DeMeglio, who took 5 months to complete the journey, hiked an average of 15-25 miles a day. "Most of the days passed in a continuous cycle of walking and eating," he said. However, the best part of the trip to DeMeglio was the freedom. "I had none of the things binding me that most members of society have," DeMeglio said. "There was no one to answer to out there. No one that I had to justify my actions to except for myself." DeMeglio is currently working as a firefighter with Firestorm, a California-based company.

## FACULTY BRIEFS

### Shaffer Honored With Emeritus Status



Robert M. Shaffer

The Virginia Tech Board of Visitors has awarded Robert Shaffer, retiring Charles Nettleton Professor of forest operations, the title of "professor emeritus."

The emeritus title may be conferred on retired professors, administrative officers, librarians, and exceptional staff members who have given exemplary service to the university and are specially recommended to the Board of Visitors by Virginia Tech President Charles W. Steger.

A member of the Virginia Tech community since 1982, Shaffer was a prominent figure in improving the

safety, efficiency, and environmental impact of logging practices in Virginia as well as much of the southeastern United States. Shaffer was also a pioneer and national leader in timber harvesting safety research, and developed a successful program in logger safety training, which assisted in lowering worker's compensation insurance rates for loggers in Virginia. His efforts helped result in a documented 50 percent reduction in logging injuries and fatalities in the South over the last 15 years.

Additionally, Shaffer was a state and regional leader in the development and implementation of forestry Best Management Practices (BMP's), which resulted in a documented improvement of forest water quality protection from logging operations. He contributed to the success of the forestry department's Industrial Forestry Operations Research Cooperative by aiding more than 20 graduate students with their research projects.

Shaffer was also a leader in the Virginia Forestry Association, serving on the organization's board of directors for several terms as well as one of its presidents. He was named the organization's "Man of the Year" in 1994.

### Prisley Recognized for Contribution to 2007 Nobel Peace Prize



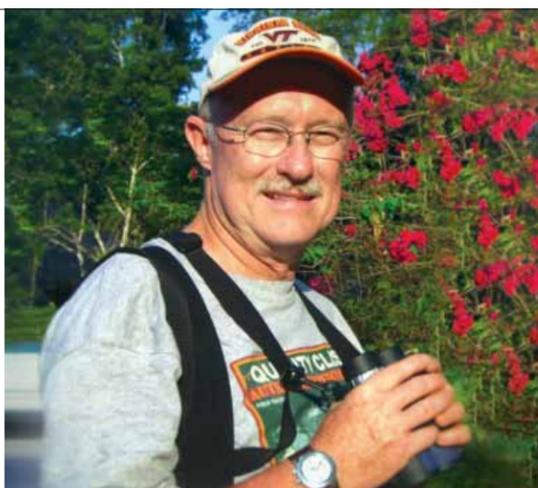
Stephen Prisley

Stephen Prisley, associate professor of forest inventory and Geographical Information Systems (GIS), has received a certificate commemorating his involvement with the International Panel on Climate Change (IPCC), which received the 2007 Nobel Peace Prize along with former Vice President Al Gore. Prisley was one of many individuals who contributed to the work recognized by the prize committee "for their efforts to build up and disseminate greater knowledge about man-made climate change, and to lay the foundations for the measures that are needed to counteract such change."

Prisley's contributions included lead authorship of "Afforestation, Reforestation, and Deforestation (ARD) Activities," part of an IPCC Special Report entitled *Land Use, Land-Use Change, and Forestry*. His work focuses on developing ways to use forest inventory and remote sensing data in estimating amounts of carbon sequestration (storage) in forested areas, which can then be used by land management organizations around the world to develop their own estimates.

"Participation in the IPCC was one of the most rewarding experiences of my professional life," observed Prisley. "It was so stimulating to work alongside forest inventory specialists from around the world in crafting guidelines for developing carbon sequestration estimates."

### Murphy Named Scholar of the Week



The Office of the Vice President for Research recognized Brian R. Murphy, fisheries and wildlife sciences professor and director of the Conservation Management Institute, as Virginia Tech's Scholar of the Week recently for his efforts to improve critical thinking and problem solving abilities among students.

Much of Murphy's work centers on case-study teaching and learning, enhancing the courses he teaches on campus, through distance learning, and in person around the world. Case studies he has written have been used in other programs as well, including a global teaching initiative centered at Cornell University that joins more than 50 universities worldwide.

Brian R. Murphy

## Software to Help Control Pollutants in Stormwater Runoff

Streams, lakes, and bays may soon be cleaner thanks to an innovative approach to managing stormwater runoff being developed at Virginia Tech and funded by the U.S. Environmental Protection Agency.

A novel software application will help engineers and planners select the most efficient and site-specific methods – called “Best Management Practices” (BMP’s) – for controlling the amount of pollutants that enter the receiving waters through stormwater runoff.

Pollutants, including toxic motor oil, pesticides, metals, bacteria, and trash, are washed off roads, parking lots, or other impervious surfaces by stormwater. The Congressional Research Service reported in 2007 that up to 50 percent of water pollution problems in the United States are attributed to stormwater runoff.

The software application is the product of collaboration between faculty and researchers from Virginia Tech’s Virginia Water Resources Research Center, the Center for Geospatial Information Technology (CGIT), and the Charles E. Via Jr. Department of Civil and Environmental Engineering.

The new BMP selection approach, called analytical hierarchy process, will factor in dozens of site-specific criteria such as soil type, land slope, and maintenance accessibility before choosing the optimal BMP’s for a particular location.

*A new software application will aid in decision making to reduce pollution entering waterways via stormwater runoff.*

“This technique is expected to drastically reduce the BMP selection time and will also eliminate the human error from such a complex process,” explained Tamim Younos, water center associate director and research professor of water resources who is serving as project coordinator. Other project leaders include Randy Dymond, CGIT co-director, and David Kibler, professor of civil and environmental engineering.

Traditionally, the selection of BMP’s has been done only by proficient stormwater experts guided by little more than vaguely written regulations, experience, and

intuition. “They rely heavily on past knowledge, tradition, or even personal preference for selecting particular methods of controlling stormwater runoff,” explains Kevin Young, research associate at CGIT. Young adds that all too often personal bias has led to “cookie-cutter” solutions to very complex stormwater management needs, resulting in poor control of the pollutants.

The software will be free to use by all interested engineers, planners, localities, and BMP review authorities, and will be applicable in other states with geographic and climatic environments similar to Virginia.



## Kramar Spreads Mercury Awareness

Recognized as a globally ubiquitous problem, mercury and methyl-mercury in ecosystems has become the top focus for many researchers. The problem with methyl-mercury is that it is readily bioavailable and can rapidly bioaccumulate as it makes its way through the food chain. David Kramar, a graduate student in the college who is currently funded under an EPA Star Fellowship, studies the effects of mercury on birds at the top of their respective food chains, primarily bald eagles.

Mercury deposition is the main pathway by which the chemical is introduced into environmental systems. The most common problem area is in fish, which are then consumed by predators that reside higher on the food chain. Over 40 states currently have advisories against the consumption of fish because of mercury accumulation.

*Dave Kramar studies a bald eagle’s nest to examine the effect mercury has on the birds.*

Whereas little work has been completed within Virginia, particularly in fish-eaters such as the bald eagle, Kramar believes that if the surrounding states face this issue, it is almost certainly an issue within Virginia as well.

“Atmospheric levels of mercury in the Southeastern United States are some of the highest in the nation, and while much research has been conducted in New England, Virginia is lacking in this information, so there is a high probability that there are higher levels in the bald eagle as well,” Kramar observed. As part of his research, Kramar collects blood, talon, and feather samples to analyze for total mercury and methyl-mercury. These samples are then related to predominant land cover type and prey type in an effort to determine what areas in the state are at the highest risk. “Land cover plays an important role in making mercury available, as some cover types such as wetland environments are very conducive to the conversion from elemental mercury to methyl-mercury,” said Kramar. He is acquiring baseline data to determine how severe the effects are and what is driving the trends, and will compare his results to those found in other regions of the country.

## Hitt Testifies Before Kentucky Legislature

Fisheries and wildlife science postdoctoral associate Than Hitt testified recently before the Kentucky legislature’s appropriations committee about his research on Appalachian mountain streams, the structure and function of their freshwater ecosystems, and the effect they have on habitats.

“My research helps predict how animal and plant life will respond to environmental changes over multiple spatial and temporal scales,”

Hitt explained. His testimony covered the ecological importance of headwaters, the difference between stream structures and functions, and the effect of mountaintop removal by strip miners and foresters. “As the world faces mounting challenges posed by water shortages, pollution, and global climate change, an understanding of freshwater ecosystems has never been more important,” Hitt emphasized.

*Than Hitt*





*Omar Espinoza takes measurements during an evaluation of a Bolivian lumber drying operation, which will be used to identify opportunities for improvement.*

## Wood Science Professor Opens Teaching Opportunities in Bolivia

Brian Bond, associate professor of wood science and forest products, Omar Espinoza, a Ph. D. student in forest products, and Phil Araman of the U.S. Forest Service, Southern Research Station traveled to Bolivia for the third time to lead workshops at the University of Santa Cruz de la Sierra (UPSA). The workshops were presented in collaboration with the Amazon Center for Sustainable Forest Enterprise (CADEFOR) as part of a U.S. Forest Service program with the U.S. Agency for International Development to support efforts in sustainable forest management and increase the capacity and value to private and public institutions to manage natural forests.

The main focus of the workshops was to train local forest communities on the value-added practice of solar drying lumber and to train commercial wood processors on methods to improve lumber drying techniques.

Dr. Bond focused the first seminar on solar drying methods and presented information about designing, constructing, modifying, and operating a solar kiln based on the Virginia Tech solar kiln design. The second seminar was focused on wood processing companies in the Santa Cruz area.

Prior to the training, Bond, Espinoza, and Araman met with UPSA faculty and toured facilities built for a new program in wood technology in UPSA's college of engineering. After the workshops were completed, Bond said, "News about the success of the workshop reached our partner CADEFOR before we had even finished packing up from class. The UPSA expressed its interest in a collaborative agreement for college professors to teach in Bolivia and offer study abroad sessions and opportunities for graduate students."

## Workshops Aimed at Improving Forest Product Manufacturing

Virginia Tech's Sloan Foundation Forest Industries Center (SFFIC), along with USDA's Wood Education Resource Center, has been holding workshops aimed at creating world-class manufacturing in the forest products industry.

The workshops are designed to teach wood products manufacturers to use "lean manufacturing" in their businesses. Lean manufacturing is a systematic approach for identifying and eliminating waste through continuous process improvement – for example, decreasing labor input and required floor space while increasing profitability and customer satisfaction. The philosophy of lean manufacturing is explained best as "doing more with less," according to Earl Kline, co-director of the SFFIC and a forest products professor.

Kline has been working to promote the advantages of lean manufacturing and continuous improvement in the forest products industry through both professional workshops and academic courses. "In the workshops, we work with forest product professionals directly, and we're also helping the future of the forest products industry by teaching students about the benefits of lean manufacturing," Kline said.

The benefits of lean manufacturing are not immediate, but instead lead to greater long-term productivity and flexibility. Manufacturers often mistakenly believe that the lean approach requires reductions in the workforce. "Lean doesn't have to be mean," Kline asserted.

Kline is currently working with faculty members from the University of Minnesota at Duluth and Mississippi State University to form case studies on using the

lean production system process in furniture and wood products manufacturing.

The SFFIC, in addition to co-sponsoring workshops, also conducts research, technology transfer, and workforce expansion programs to encourage and improve business sustainability, communication, and growth in the forest products industry.



*Earl Kline teaches about lean manufacturing at a recent workshop.*

## Project to Improve State's Trail System

A statewide project will create an Internet-based digital repository of existing and planned bicycle and pedestrian infrastructure, including bike lanes, hiking, and horseback riding trails.

Two forestry professors, John McGee and Steve Prisley, along with Steve Sedlock, a researcher from the college's Center for Geospatial Information Technology (CGIT), are coordinating the project.



CGIT will convert the available bike and pedestrian infrastructure information into a standard, seamless digital format. The innovative digital database will be provided to decision makers statewide and then to the citizens of Virginia via a web-based Geographic Information System (GIS) application. GIS technology links physical features on the earth to a database of their descriptions, locations, and characteristics.

"The initial application will allow decision makers to zoom into a specific area, add aerial photography and potentially other map data as a "backdrop," or quickly obtain information such as length or width for a specific segment of the bike or pedestrian infrastructure," observed McGee, who is the principal investigator for the project.

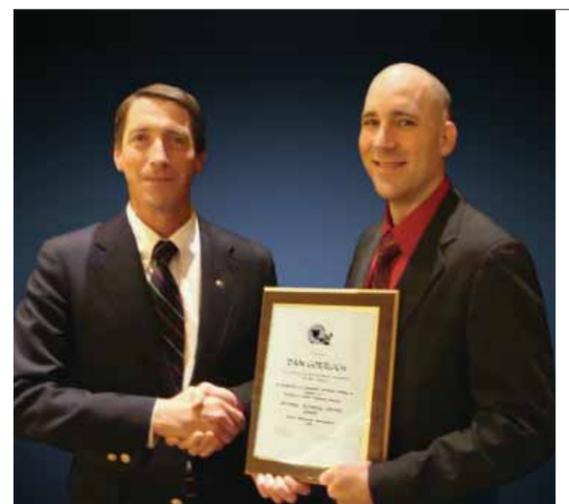
The GIS application will allow anyone to go online and find a desired bike, hiking, or horseback-riding trail, and even print out a detailed trail map.

The project is also in line with the college's sustained engagement toward establishing a "green" dialogue between various state departments. "This project will help to provide Virginia's local and state governments with a comprehensive data foundation to facilitate responsible and efficient decision making for the benefit of all Virginians," said McGee.

*A statewide project will make information on Virginia's recreational trails available via a web-based digital database.*

## Goerlich Receives Technical Writing Award

Virginia Cooperative Extension district program leader Dan Goerlich and Joel Cathey of the Ontario Hardwood Company in Keysville, Va., received the Technical Writing Award at the Forest Resources Association's (FRA) annual awards luncheon in Myrtle Beach. Their technical release describes the results of a workshop that aimed to improve the merchandising of hardwood logs in Virginia. The release was developed in response to a 2002 Virginia Tech study that discovered that loggers lose an average of 20.7 percent of wood value due to undercutting, overcutting, and improper merchandising.



*Dan Goerlich (R) receives the Technical Writing Award from FRA Chairman Jim Brody on behalf of both authors.*

DEVELOPMENT HAPPENINGS

Packaging Program  
Receives \$50,000 Cutting Table

Virginia Tech's Center for Unit Load Design in the college's wood science and forest products department received a Data Technology cutting table from the International Corrugated Packaging Foundation (ICPF) in a recent dedication ceremony. The ICPF's donation and installation of the table is part of its ongoing nationwide initiative to advance corrugated packaging programs at universities and to ensure a continued increase in graduates entering the corrugated packaging industry.

The refurbished cutting table, valued at more than \$50,000, will be used in paper and paperboard packaging classes to give students the expertise needed in the packaging industry.

The Center for Unit Load Design develops information and technologies to maximize the efficiency of unit load material handling systems and optimize the relationship between the design and performance of unit loads. "We were thrilled with the donation of the Data Technology cutting table from ICPF," said Ralph Rupert, center director. "This donation will allow our students the opportunity to follow their design through performance evaluations for a better understanding of the relationship between design and product protection, and enable them to gain the expertise needed. We were truly touched by Data Technology's thoughtfulness in painting the table Hokie colors."

Center director Ralph Rupert tests out the new cutting table.



ALUMNI UPDATE

Merkle Wins 2007 Barrington Moore Award

Scott Merkle, who received both his master's and Ph.D. from the college and is now professor of forest biotechnology at the University of Georgia's Warnell School of Forestry and Natural Resources, won the 2007 Barrington Moore Award, which is given by the Society of American Foresters for outstanding research with a sound biological basis in forestry.

"It is humbling to be included on the list of forest scientists who have received the award since its inception in 1955, scientists regarded as giants in forest biology research," Merkle said. "I am fortunate to have received education and training from some of the best forest scientists, including the

late Pete Feret and Dave Smith (who tried to teach me silviculture) at the college."

Although the Barrington Moore Award is given for research, Merkle explained that he gained a love for teaching undergraduate forestry and wildlife students while at the college, where he taught several dendrology lab courses as a graduate assistant. He is now in his 18th year teaching dendrology through lectures and labs. "Most of all, I still look forward to getting out in the woods with his students each year," he said.

Scott Merkle



Greg Scheerer

Scheerer Receives Leadership Award

Greg Scheerer, 1992 B.S. and 1994 M.S. in forestry, was awarded the 2007 Young Forester Leadership Award at the 87th annual Appalachian Society of American Foresters (SAF) meeting. The award recognizes outstanding leadership by a forestry professional younger than 40 years of age in a sustained leadership role whose actions have benefited the practice of forestry and the SAF.

Scheerer served as chapter chair of the college SAF during the 1991-92 school year, and was awarded the Virginia Division SAF Merit Award and the Virginia Division Young Forester Leadership Award in 2005. Scheerer, who has been an employee of MeadWestvaco Corporation since 1995, said of the college's forestry department, "The solid educational foundation of the undergraduate and graduate programs, coupled with the mentoring I have received from the excellent forestry faculty, have greatly assisted me in my career as a professional forester. I value the time I spent in Cheatham Hall and the relationships I continue to enjoy there."

Forestry Alumni News Online

Curious about what your forestry classmates have been up to? Help get the ball rolling by sharing some news about yourself in the new online Forestry Class Notes. Visit the Alumni and Friends link on the Department of Forestry web site at [www.forestry.vt.edu](http://www.forestry.vt.edu). Select Submit Alumni News to submit information about yourself. Select Forestry Class Notes to catch up with fellow alumni. As part of the department's new web site launched in 2007, links for alumni have expanded to include alumni events and resources, mentoring students, and volunteering. As always, let us know what you like or don't like—our goal is to bring the forestry community together. E-mail Tracey Sherman ([tracey@vt.edu](mailto:tracey@vt.edu)) with your comments.

Join us!  
**College of Natural Resources Homecoming**

Join CNR alumni, faculty, family and friends at our pre-game homecoming tailgate. The festivities will take place at the entrance to Cheatham Hall and will start 3 hours prior to kick-off when Virginia Tech will take on Duke.

**Saturday, November 22, 2008**

To register and for more information, visit us online at [www.alumni.vt.edu/reunion/cnr](http://www.alumni.vt.edu/reunion/cnr)

Tailgate buffet • College displays • Entertainment • Games for kids • CNR Scholarship Fund Bingo and more!

VirginiaTechforlife

Upcoming Alumni and Friends Receptions and Special Events

**WEDNESDAY, AUGUST 20, 2008**  
Alumni and Friends Reception  
138th Annual Meeting of the American Fisheries Society  
5-7 p.m., L'Orangerie  
Fairmont Chateau Laurier  
Ottawa, Canada

**SEPTEMBER 15-19, 2008**  
Wood Week 2008  
Blacksburg, Va.  
Details at [www.woodscience.vt.edu](http://www.woodscience.vt.edu)

**NOVEMBER 5-9, 2008**  
Alumni and Friends Reception  
Society of American Foresters  
2008 National Convention  
Details TBA  
Reno-Tahoe, Nev.

**NOVEMBER 8-12, 2008**  
Alumni and Friends Reception  
The Wildlife Society  
15th Annual Conference  
Details TBA  
Miami, Fla.

# Antarctica



*Sybille and her husband, William Penhallegon, at Neko Harbor on the Antarctic Peninsula.*

Fresh back from Antarctica, alumna Sybille Klenzendorf, species director for the World Wildlife Fund (WWF), had these poignant words to say about her awe-inspiring trip, "For many of us, Antarctica represents one of the last places on earth where nature has absolute control, and man is merely an occasional guest. But traveling there showed me how large of a footprint we have, even from very far away."

Sybille, who received both her M.S. and Ph.D. in wildlife science from the college, went on an expedition to Antarctica and other south Atlantic islands last winter. She attended as a WWF staff representative along with other WWF members as guests of the travel company, Natural Habitat Adventures, to teach about global climate change and its negative effects on wildlife. Her work at the WWF includes raising awareness about the organization's efforts to preserve the ecosystem and reduce our carbon footprint.

Sybille began her journey on a retired Russian research vessel, traveling along with 74 participants, staff, and crew to the Falkland Islands, South Georgia Island, and the Antarctic Peninsula. "I think it is important for people to experience these areas personally so they know what's at stake in the fight for their conservation," she noted.

In her online Field Dispatch ([www.nathab.com/antarcticdispatch](http://www.nathab.com/antarcticdispatch)), Sybille described the prospect of seeing several species of penguins and birds, humpback whales, seals, and walrus up close on the open ocean as "a dream for any naturalist," adding, "I'm certainly no exception." Several land excursions allowed her the opportunity to approach and interact with colonies of penguins.

While at sea, Sybille gave presentations about the WWF's worldwide conservation challenges and strategies, her Ph.D. work on black bear conservation in Virginia, and climate change challenges facing wildlife across the globe. She and the other travelers spent considerable time identifying various sea birds and distant whale spouts. She describes the seabirds as "studies in grace," citing, in particular, the numerous albatrosses. These large birds live in the air and only land to nest.



*The vessel heads toward the Falkland Islands, one of a number of stops on the way to Antarctica.*

*A view of the Antarctic Peninsula mountains.*

Few places compare with the beauty of South Georgia Island, significant for "glacier covered peaks, abundant wildlife, beautiful bays and fjords, a rich history, and very limited signs of civilization," said Sybille. Her exploration of South Georgia began at the Grytviken settlement in King Edward Bay, a former Norwegian whaling station, an experience that proved to be an emotional one. "It was a very moving scene just to walk and look at equipment of the mechanized deaths that we put on the whales," she said.

In addition, her expedition took her to Salisbury Plain in the Bay of Isles, home to the second largest concentration of king penguins anywhere on earth, and Prion Island, which she described as a remarkable nesting place for wandering albatrosses and other seabirds.

Once arriving in Antarctica, she witnessed the dramatically evident effects of global warming. "Standing on the bridge next to the computerized chart system, the ship's position showed us to be on top of a glacier. In reality, however, the glacier front had receded at least 500 yards in just 20 years," she explained. The expedition spent four days at the Antarctic Peninsula and neighboring islands before returning home.

Sybille acknowledged that it is often easy to become discouraged in the face of so many environmental challenges, but declared, "Visiting areas like these reminds us of the stakes in the fight for our planet." As for Antarctica, "You visit it when it lets you, and one should be grateful for every privileged moment there."

Find out how to reduce your own carbon footprint and learn about the World Wildlife Fund's efforts to fight climate change at [www.worldwildlife.org/climate/involved/individuals.cfm](http://www.worldwildlife.org/climate/involved/individuals.cfm).



*Land excursions allowed Sybille and her husband to interact with king penguins on South Georgia Island.*



Congratulations to the Class of 2008!

