



# CNR NEWS

*An ominous shelf cloud in Yuma County, Colo.*

## Storm chasing leads to meteorology program

After eight stormless days, tensions run high among Dave Carroll's students and a dull stupor fills the classroom. It is not a spell that will break with the end of a 50-minute class period. In this case, the classroom is a minivan and the class is The Great Plains Storm Chase, a summer course that involves traveling thousands of miles across the country to find and monitor severe storms. Suddenly, the silence breaks as the radar reveals a nearby storm system. The students spring to life, moving quickly to operate the extensive weather monitoring instruments inside the van. Carroll stays at the wheel, obeying the driving directions the students shout to him as they look at a screen that shows a road map overlaying the radar.

Carroll's Storm Chase course is an experience like no other, a valuable opportunity for students interested in a career in meteorology. The course gives students hands-on experience operating weather equipment and exposes them to the thrills and frustrations of storm chasing. "The two to three week-long trip can be quite a haul," says Carroll, "so it is important that students have the ability to be civil to others during high-stress periods." However, the thrill of witnessing a large storm event more than counteracts the boredom of a long lull. Through such intense experiences, students build new friendships as well as stronger skills in forecasting and monitoring weather.

COLLEGE OF NATURAL RESOURCES  
Virginia Polytechnic Institute and State University



*The 2009 storm chase crew gathers after intercepting a severe storm in Kiowa County, Okla.*

Carroll anticipates Virginia Tech's program as being unique for more than its status as the state's only meteorology program. "Most programs focus on what we would consider classical meteorology, where you're looking at the physics of the atmosphere," Carroll explains. "We're specializing in the entire GIS process and blending meteorology into that curriculum. It's almost a dual approach to meteorology."

Instead of modeling its program on those at other schools, Virginia Tech would play to the university's existing strengths, many of which lie in GIS applications. GIS technology allows students to consider how landforms affect weather patterns rather than looking primarily at atmospheric patterns. "We know the surface of the earth influences what's going on in the atmosphere, but it's very difficult to try to model that input into the atmosphere and figure out how it might impact the weather," observes Carroll.

Despite recent budget cuts, the geography department is working to make the meteorology program a reality, strengthening the meteorology concentration as it gets closer to offering a major.

"I'm developing relationships with other departments to come up with a joint venture," says department head Bill Carstensen. The program needs several upper-level courses to meet employment requirements for the National Weather Service, but Carstensen expects that the university will offer the degree within the next five years. Adjunct teaching and cooperation with other departments will provide some of the needed courses, but Carstensen eventually hopes to employ two new faculty members. "This investment would open the doors to expanding research and developing a graduate program," says Carroll. "The end result will be better forecasting."

As the course's popularity has grown, so has the Department of Geography's interest in creating a major in meteorology. When first proposed during a university-wide call for new program ideas five years ago, the meteorology program was one of the most favorably received new ideas. It would be the first of its kind in Virginia; currently, the state pays for meteorology students to study at Mississippi State University at in-state tuition rates.



*Ashley Shim, Brian Smith, and Andrew Smith analyze model data in an effort to pinpoint potential thunderstorm activity on the road in eastern South Dakota in June 2009.*



*Ashley Shim and Erik Ferryman observe a supercell's rapidly rotating wall cloud in north-central Texas on the 2009 storm chase trip.*



*The chase van sits under a mammatus cloud field from a tornadic supercell in southeastern Nebraska in June 2009.*

### 2009 Great Plains Storm Chase Blogs

Hokie Storm Chasers:  
<http://hokiestormchase.wordpress.com/>

Kevin Myatt, *Roanoke Times* weather journalist and storm chase co-leader:  
<http://blogs.roanoke.com/rtblogs/weatherjournal/category/storm-chasing/>

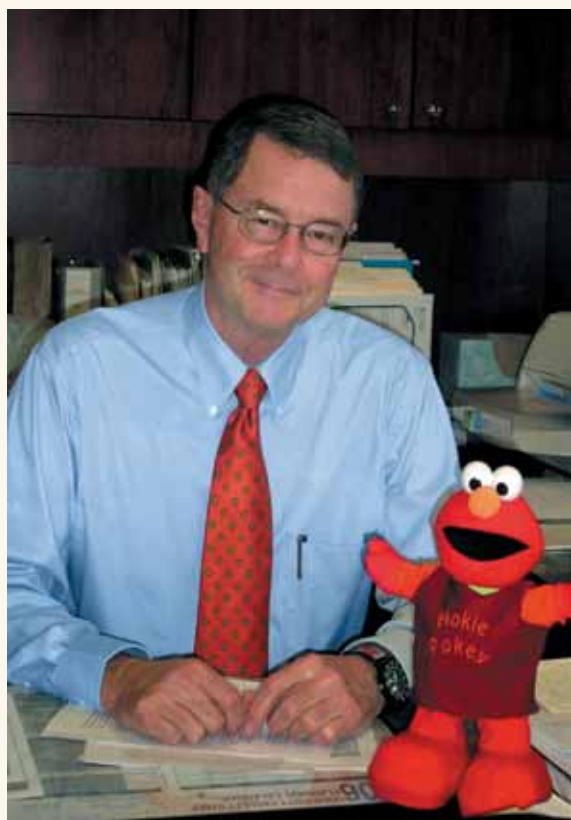
*"The storm chase trip is a valuable extension of on-campus coursework. The stakes are high as students actually forecast the development of severe storms, and the accuracy of the analysis directly influences whether the team intercepts storms or not. The trip is definitely not for everyone, as it is geared toward those with a true passion for severe thunderstorms and tornadoes."*

Instructor Dave Carroll

*A "mothership" tornadic supercell appears over Graham County, Kan., in May 2007.*



FROM THE DEAN'S PERSPECTIVE



This edition of the CNR newsmagazine is my last communication with you as dean of the College of Natural Resources. On August 1, Paul Winistorfer will be installed as the college's third dean, and I will be moving towards retirement from the university.

It has been both an honor and a pleasure to provide leadership for the college for the past five years. I have truly enjoyed the opportunity to communicate with you periodically through this newsmagazine as well as other venues. The quality of our faculty, staff, and students has made this an easy process and given me much to talk about. As alumni, parents, and friends of the college, you have much to be proud of, as the college has continued its steady progression to becoming one of the best, if not *the* best, college of its type in the country. I have been most fortunate to have been able to work with an excellent faculty and staff as we pulled together to achieve the goals of our strategic plan. I have also been fortunate to work with the university president and provost, as well as with other university administrators and deans, with the certain knowledge that our programs and people are both valued and respected. And this respect extends well beyond the boundaries of the university to the commonwealth and even the world.

One of the most rewarding aspects of this position is the opportunity to meet truly special people, people who are both warm and generous with their support and their friendship. I have been richly blessed in these relationships and very much appreciate the gracious welcome and friendship given to me and to my wife, Candi, in support of our efforts on behalf of the college. To those people, a very special heartfelt thank you.

As you might expect, coming to the end of one's life's work is a time of mixed feelings. I have been fortunate to have had a career spanning 40+ years in research and education, a career that has provided a diversity of experiences and opportunities that I would not have begun to dream of at the outset. And as I now reflect on a lifetime of professional experiences and friendships, I place my time at Virginia Tech at the pinnacle. So thanks to all for making this experience so rewarding, and my best wishes for the future to the college and its new dean. The beat goes on!

*J. M. Kelly*



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## Paul Winistorfer Selected as New Dean

Paul Winistorfer, head of the Department of Wood Science and Forest Products, has been selected as dean of the College of Natural Resources to succeed retiring Dean Mike Kelly on August 1. "Paul has a clear vision for taking the college to further growth and expansion," said Senior Vice President and Provost Mark McNamee.

In outlining his vision for the college during his candidacy presentation, Winistorfer stressed that "the college must create its own future. Sustaining and utilizing our natural resources is of paramount importance to the commonwealth and the planet overall. We will continue to be internationally known as one of the finest programs with one of the very best faculty." Winistorfer added, "I want to work cooperatively with all agencies and constituent groups in the commonwealth on behalf of our interests in natural resources."

Winistorfer came to Virginia Tech in 2001 from the Forest Products Center at the University of Tennessee to head up the wood science and forest products department. He moved the department forward through the creation of "Wood Week" at Virginia Tech and by co-leading a bio-materials faculty recruitment initiative with other departments and colleges on campus. He focused new hires in strategic areas, as well as guided curriculum reform.

Noting Winistorfer's accomplishments, Dean Mike Kelly said, "I have found Paul to be a personable leader of considerable vision, so I feel confident that his vision and leadership will serve the college well in the future." Winistorfer remarked that he "will build on



*Paul Winistorfer (L) succeeds Mike Kelly as dean of the college in August.*

the good work and leadership of Dr. Kelly in moving the college forward these past five years. The College of Natural Resources' faculty, staff, and students are leaders in what they do. With its various leading-edge programs, our college is one of the very best in the country, so I am humbled, appreciative, and excited by this special opportunity to work hand-in-hand with our college community and constituency."

Among his many professional accomplishments, Winistorfer was elected as a Fellow in the International Academy of Wood Science in 2004, served as coordinator of the forest products education unit of the International Union of Forestry Research Organizations, and serves on the Board of Directors for the Consortium for Research on Renewable Industrial Materials. He also holds a U.S. patent for an optical device to measure thickness swell of wood-based composites.

A native of Marion, Iowa, Winistorfer earned his bachelor of science at Iowa State University through the university honors program with emphasis in education and forest products, and his Ph.D. in wood science. He and his wife, Jeanette, have 9-year-old twin sons, Jonah and Soren.

## Memorial Scholarship Established

Virginia Tech has established a scholarship in memory of Richard Brett Quarterman ('04 B.S.C.E. in civil engineering), who died in a house fire in March 2007. Known as Brett, he was the son of Peggy Quarterman, the long-time administrative staff assistant for the College of Natural Resources, and her husband, Buddy. Students and faculty in the college got to know Brett during his growing-up years, as he often came to the office after school let out, so the Quartermans' loss was shared by many in the college.

While an engineering student at Virginia Tech, Brett specialized in structures, foundations, and construction, and had gone on to a career as a civil engineer in Charlottesville. He had applied for a position at Virginia Tech and had looked forward to "coming home" to Blacksburg before his untimely death. To contribute to the Richard Brett Quarterman '04 Memorial Scholarship in Civil Engineering (#860232), contact Bob Smythers at [rsmyther@vt.edu](mailto:rsmyther@vt.edu).



*Brett Quarterman*

## Forestry Department Renamed

The college's Department of Forestry has been renamed the Department of Forest Resources and Environmental Conservation to better reflect the breadth and depth of the many natural resource programs offered. "The past two decades have brought a variety of changes to both the practice and profession of forestry in Virginia, the United States, and the world," explained Dean Mike Kelly. These changes have paralleled and have been driven in part by the increasing demands for forest fiber, timber products, recreation amenities, wood-based fuel, clean water, biodiversity, and climate stabilization.

Forest industry and public land management agencies are restructuring and aligning their activities to improve forest sustainability. "This has made the need for leadership from Virginia Tech's Department of Forest Resources and Environmental Conservation, the commonwealth's flagship for forestry research, education, and outreach, greater than ever before," emphasized Janaki Alavalapati, who became department head last fall.

In a puzzling dynamic, while the profession is undergoing change, undergraduate enrollments in forest resource programs across the country have been declining. To reverse this trend, schools are realigning, renaming, modifying curriculum, and intensifying recruitment efforts. "To position ourselves in creating the next generation of professionals and to better reflect and promote our activities, we are exploring a series of strategies," said Alavalapati. "We are making our curriculum more flexible and have established partnerships with community colleges so that students can more easily transfer to our program. We are developing new majors and options and revising existing ones, as well as improving our marketing efforts, along with renaming the department."



The Department of Wood Science and Forest Products will host its fourth annual Wood Week on the Virginia Tech campus Sept. 14-18. Events will include a career fair, keynote address, scholarship reception, and other activities. Visit [www.woodscience.vt.edu](http://www.woodscience.vt.edu) for more information.

## Tree Campus USA Initiative Receives Governor's Award

The university received the 2009 Governor's Environmental Excellence Bronze Medal in the Environmental Project category in recognition of its Tree Campus USA 2008 Initiative. Michael Coleman, associate vice president for facilities services, accepted the award for the university at the 20th Annual Environment Virginia Symposium Banquet.

The Campus Tree Tour, which took place in fall 2008, included over 200 volunteers and students who planted 100 trees on campus. "Trees are a critical component of the Virginia Tech campus," said urban forestry professor Eric Wiseman, who introduced the idea of getting involved with the Tree Campus USA program to the university's Arboretum Committee. "We value their aesthetic and environmental contributions to the community. The Campus Tree Tour is an opportunity to celebrate trees and demonstrate our commitment to a sustainable urban forest."



Over 200 volunteers planted 100 trees on campus during the Tree Campus USA event last fall.

Photo courtesy of Joshua Rosenfeld, Town of Blacksburg

## College Honors Banquet Recognizes Students, Alumni, and Friends

This spring's 44th Annual Honors Banquet recognized some of the college's most accomplished students, prominent alumni, and cherished friends. Among the many awards presented were the following:

**Josh Widmer**, a senior in natural resources conservation, was given the Outstanding Member Award for his work with Xi Sigma Pi. Associate dean Richard Oderwald, who emceed the event, recognized Widmer as "always willing to help out anyone in need." Widmer, president of Xi Sigma Pi, has excelled in coordinating community service events such as a Duck Pond clean up in fall 2008 and a tree planting event in Blacksburg's Shadowlake Village as a memorial to the April 16th tragedy.



**Suzie and Randy Leslie** received the Friend of the College Award for their support and contribution to the college. They willed part of their estate to the college to create an outdoor environmental education center on campus, which will be run by scholarship-awarded interns. "They have made a lasting impact on the College of Natural Resources in many ways, and have most certainly provided the college with the foundation on which others will build," Oderwald remarked. Suzie, the college's academic advisor, has helped many students through to graduation. Randy, a real estate appraiser, shares his wife's enthusiasm for the college. "Nature means so much to us that we want to share it with people even when we're gone," Suzie explained.

**Sean Wohltman** ('04 B.A. and '05 M.S. in geography) received the Recent Undergraduate Alumnus Award. Wohltman was quickly promoted from an analyst position to geospatial intelligence innovation officer at the National Geospatial Intelligence Agency (NGIA). He has served as a geospatial engineer on the Enterprise federal team at Google since September 2008. In this role, he focuses on adapting Google geospatial technologies for the U.S. Intelligence Community's use and guiding federal users in how to best utilize this technology. While at Virginia Tech, Wohltman was respected as a leader and distinguished himself as an outstanding student – one of only two students who completed the B.A./M.S. program in 5 years. "Sean continues to live out his reputation from Virginia Tech to his career at NGIA as a respected leader and innovator," commented Oderwald.



**Sybille Klenzendorf** ('97 M.S. and '02 Ph.D. in wildlife sciences) received the Recent Graduate Alumnus Award. As a graduate student, Klenzendorf published four peer-reviewed papers, won a number of prestigious scholarships, was the college's outstanding graduate student of the year, and was also selected to give the address at her graduate commencement ceremony. Klenzendorf competed with over 300 applicants to become senior biologist in the Species Conservation Program at the World Wildlife Fund (WWF). She then went on to become the director of the Species Conservation Program, and later was promoted to managing director of the Species and Wildlife Trade Programs. "In her position at WWF, Klenzendorf has become widely respected for her influence on the conservation and preservation of some of the world's most endangered wild animal populations," Oderwald noted.



**Michael Wolcott** ('89 Ph.D. in materials engineering sciences/wood science and forest products), who received the Career Achievement Award for the outstanding alumnus of the college, excels in natural resources research. He works as an international scholar in wood-based composite research and serves on the faculty in the College of Engineering at Washington State University. His work has led to the development of advanced wood materials to better resist the aging process, reduce manufacturing costs and pollution, and provide better performance for wood-based materials. Wolcott has twice received the outstanding faculty research award at Washington State University.



## Remarkable Trees Book in High Demand

*Remarkable Trees of Virginia*, the book co-authored by forestry professor and Extension specialist Jeff Kirwan, is now going to its third printing. UVA Press, the book's distributor, sold all of the original 5,000 copies of the book in just two months, exceeding everyone's expectations. Although four of the 120 trees featured in the book have since died or are nearly gone, the authors plan to keep them in the second edition. Kirwan, who presented the keynote address at the Celebrate Trees! event in Richmond's Byrd Park on Arbor Day, hopes the book will engage a new generation of Virginians in the care and appreciation of trees.

Gov. Tim Kaine (C) and State Forester Carl Garrison (R) admire copies of the book, *Remarkable Trees of Virginia*, during the governor's visit to the Virginia Department of Forestry headquarters office in Charlottesville. Paul Revell (L), state urban forestry coordinator, presented a copy to Gov. Kaine as a gift. Photo courtesy of the Office of the Governor of Virginia

## Fisheries and Wildlife Graduate Students Earn Record Awards

With education funding exceedingly scarce, department head Eric Hallerman has strongly encouraged graduate students in fisheries and wildlife sciences to pursue outside funding sources. The efforts of a number of doctoral candidates, as well as the value and integrity of their research, have earned students an unprecedented number of prestigious honors in the past year.



**Christine Bergeron** was awarded a fellowship from the Environmental Protection Agency's (EPA) National Center for Environmental Research as part of its Science to Achieve Results (STAR) program. The EPA STAR fellowship, which encourages promising students to obtain advanced degrees and pursue careers in environmentally related fields, will provide \$111,000 over a three-year period to cover tuition, stipend, and research expenses. Bergeron's dissertation research examines the effects of mercury on the reproductive success of adult American toads and development of their offspring from eggs through metamorphosis, and focuses on life history traits and responses to mercury that have implications for population size and sustainability.



**Sarah DuRant** received Grants-in-Aid Research awards from both Sigma Xi and the Society of Integrative and Comparative Biology for her research on wood ducks. Sigma Xi, a science research society, recognized DuRant for her research on immunological and energetic tradeoffs in young birds. The Society of Integrative and Comparative Biology awarded DuRant in the Comparative Physiology and Biochemistry division for her work titled "Slight changes in incubation temperature affect early growth and stress endocrinology in wood duck (*Aix sponsa*) ducklings."



**Claudia Wultsch** received a Kaplan Graduate Award (KAP) of \$24,900 from Panthera – Partners in Wild Cat Conservation for the second year in a row; she received \$18,500 in fall 2007. The KAP aims to support the next generation of wild cat biologists by recognizing the conservation efforts of graduate students studying wild cats in the field. Wultsch also received an \$8,000 International Peace Scholarship from the Philanthropic Educational Organization, which provides scholarships for international female students to pursue graduate study in the United States and Canada. Wultsch, originally from Austria, came to the United States as a Fulbright Scholar. The funds will help cover the costs of her research and analysis on noninvasive monitoring (molecular scatology and remote camera trapping) of jaguars and other wild cats in Belize.

The funds will help cover the costs of her research and analysis on noninvasive monitoring (molecular scatology and remote camera trapping) of jaguars and other wild cats in Belize.



**Maria Bravo-Vinaja** also received an International Peace Scholarship of \$4,000 from the Philanthropic Educational Organization. Bravo-Vinaja used the scholarship to pay for tuition fees, books, and research equipment, which she says will help her succeed in her studies. Her main interest is studying the relationships between wildlife and habitat, especially those wildlife species of special concern. She has studied the use of habitat by the Mexican spotted owl in Mexico and now researches the landscape habitat relationship of golden eagles in northern Mexico using Geographic Information Systems to best predict where their highest quality habitat is located.



**Jessica Homyack** received a \$1,000 predoctoral scholarship from the Association for Women in Science. The scholarship, which is awarded on the national level to five to 10 female students per year, supports women in a science or engineering program, particularly in fields where women are underrepresented. Homyack's research focuses on the effects of forest regeneration methods on salamander populations in Virginia and West Virginia. She is examining the long-term effects of seven oak regeneration practices on salamander populations as part of a larger, multidisciplinary project that also considers effects to nutrient cycling and understory vegetation.



**Danielle Bridgers** was awarded a 2009 National Science Foundation Graduate Research Fellowship. The fellowship, which recognizes masters and doctoral students who have done outstanding research in science or engineering, provides three years of funding, a tuition supplement, and a \$30,000 annual stipend. Bridgers researches bog turtles, an endangered species, and is the first person to successfully study this turtle species with sonar (see related story on back cover).



*Ritchie Vaughan*

and has been named to "Who's Who Among Students in American Universities and Colleges." She is a member of the Virginia Tech Wildland Fire Crew, where she has served as assistant fire management officer. Her many outreach activi-

## Forestry Senior Earns Double Honors

Senior forestry major Ritchie Vaughan was named the college's Outstanding Graduating Senior for the 2008-09 academic year. The Outstanding Senior Awards, co-sponsored by the Virginia Tech Alumni Association and the senior class, recognize outstanding student performance in each college in academic achievement, extracurricular activities, leadership positions, and contributions of service to the university and/or community.

Vaughan is the recipient of numerous academic awards and scholarships,

ties include volunteering with The Rock Climbing Gym and the Montgomery County Humane Society, contributing to the Claytor Lake State Park Forest Management Plan, and serving as the Blacksburg Bicycle Cooperative's president and head mechanic.

Vaughan was also awarded a Carter Academic Service Entrepreneur (CASE) grant for \$1,000 from the Jimmy and Rosalyn Carter Foundation to fund part of her undergraduate research at the Catawba Sustainability Center, a property owned by the college. The grant is helping to fund the cost of carving out streamside management zones in hay fields, mapping the 377-acre property, and adding hardware to support an organic farming incubator on-site. Vaughan's research was a part of an independent study and undergraduate research course through which she gained such job skills and work experience as consenting between multiple stakeholders, writing proposals, obtaining grants, and conducting research.

Vaughan will start on her master's in environmental resource management with an emphasis on non-timber forest products after spending the summer working on a U.S. Forest Service trail crew in Moose Pass, Alaska.

## Student Receives Rachel Carson Award for Scientific Excellence

Rachel Mair ('00 B.S. in fisheries science), a fisheries and wildlife sciences graduate student, received the first-ever Rachel Carson Award for Scientific Excellence from the U.S. Fish and Wildlife Service. Mair is a biologist at the agency's White Sulphur Springs National Fish Hatchery.

The award recognizes service employees who demonstrate superior scientific involvement and application to achieve extraordinary results in fish and wildlife conservation. Rachel received the award for her work developing successful culture systems and feeding regimes for the culture and propagation of endangered freshwater mussels. She successfully cultured the endangered northern riffleshell, spiny mussel, and oyster mussel.

Mair received the award, named in honor of renowned ecologist Rachel Carson, author of the groundbreaking book *Silent Spring*, from U.S. Fish and Wildlife Service Director H. Dale Hall at a ceremony at the Natural Resources Conservation Service facility in Shepherdstown, W. Va. The White Sulphur Springs National Fish Hatchery will also receive \$50,000 in additional operational funds for mussel research in acknowledgement of Rachel's achievements.

Mair plans to continue working for the U.S. Fish and Wildlife Service after completing her master's degree. "I would also like to continue my research on the advancement of freshwater mussel propagation technology," explained Rachel.

*Rachel Mair cleans sieves containing juvenile northern riffleshells, an endangered mussel species.*  
Photo by Matthew Patterson, USFWS



## FACULTY BRIEFS

### Roggenbuck Nationally Recognized

Joe Roggenbuck, professor emeritus of natural resource recreation, recently won two prestigious awards for his career-long contributions to natural resource management. Several alumni and past coworkers from the college facilitated Roggenbuck's honors, writing letters of recommendation and nominating him for the distinguished awards.

Roggenbuck received the Benton H. Box Award at Clemson University's annual George B. Hartzog, Jr. Environmental Awards luncheon for "recognition as a teacher who by precept and example inspires in students the quest for knowledge and encourages curriculum innovation to inculcate an 'environmental ethic' as the rule of conduct." The awards presented at the annual luncheon, named in honor of the former National Park director and environmental advocate, recognize exemplary leadership in addressing environmental issues and concerns.

Roggenbuck also won the Forest Service's 2008 National Award for Excellence in Wilderness Stewardship Research for his career-long contribution to wilderness research, particularly on issues pertaining to east coast wilderness areas, and his commitment to scientific excellence, managerial relevance, and widespread dissemination of findings through a variety of publication forums. Forest Service Chief Gail Kimbell presented the award at a ceremony last fall in the historic Chief's conference room at the agency's headquarters in Washington, D.C.



Joe Roggenbuck (second from right) with Forest Service administrators (L-R) Chris Brown, director, Wilderness and Wild and Scenic Rivers; Gail Kimbell, chief; and Joel Holtrop, deputy chief, National Forest Systems. Photo courtesy of the U.S. Forest Service

### Scarpaci Honored with Emeritus Status

Joseph L. Scarpaci, geography professor, has been conferred the "professor emeritus" title by the Virginia Tech Board of Visitors. The title of emeritus may be conferred on retired professors and exceptional staff members who are specially recommended to the board of visitors by Virginia Tech President Charles W. Steger.



Joseph Scarpaci (L) with study abroad students and marketing professor Jim Littlefield (back row) in Valparaíso, Chile.

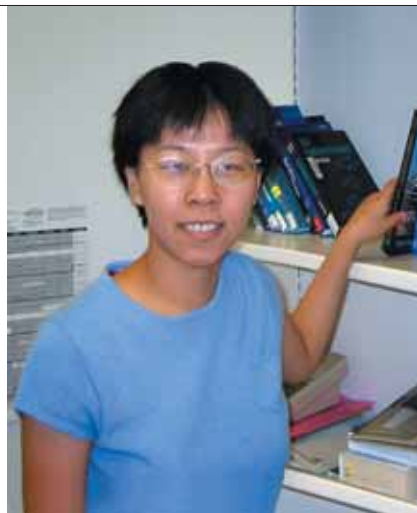
A member of the Virginia Tech community since 1989, Scarpaci is an internationally recognized scholar in the fields of urban and social geography, comparative social policy, historic preservation, international development, and Latin America. He has written and edited numerous scholarly works, and in 1998 received the Choice Outstanding Book Award from the American Library Association for his book, *Havana: Two Faces of the Antillean Metropolis*.

"Being a Professor Emeritus allows me to embark on a new course in my professional career as a professor of marketing at Virginia Military Academy in Lexington. I'll be able to develop study abroad courses in international marketing, with an emphasis on Cuba and Chile, in the Department of Economics and Business. I feel fortunate to be able to say I have worked at two fine institutions of higher learning in the Old Dominion," noted Scarpaci.

As a repeat recipient of the Fulbright Award, America's flagship international education exchange activity, Scarpaci continues to develop ways of implementing historical preservation in Latin America. Most recently, he assisted Chile in its historical preservation with his Senior Research Fulbright Fellowship in fall 2008. There, he guest lectured at the Catholic University of Chile and the University of Talca, was the guest of honor at the "Conservation of Monuments and Political Heritage Nationals" conference, and served as technical advisor for an interdisciplinary study abroad program along with marketing professor Jim Littlefield.

### Jiao and Thomas Named Scholars of the Week

The Office of the Vice President for Research has recognized two College of Natural Resources faculty members as Virginia Tech Scholars of the Week this past year.



Yan Jiao, an assistant professor of fisheries and wildlife sciences, was recognized for her research, which includes improving the management of aquatic natural resources in the United States and the world. "My research involves developing, testing, and applying new and innovative methodology to fisheries stock assessment, with emphasis on dealing with the uncertainty inherent in data and models. Specifically, I model uncertainty and evaluate its influences on stock assessment and decision-making in fisheries management," Jiao explained.

Much of Jiao's current work has been interdisciplinary, involving fisheries biology, ecology, mathematical and statistical modeling, and computer simulations. Her research improves the current models and quantitative methods in simulating the population dynamics of both marine and freshwater species such as hammerhead sharks, weakfish, yellow perch, and walleye.



Valerie Thomas, an assistant professor of geospatial and environmental analysis, was recognized for her research in applications of remote sensing to the analysis of forest canopy structure and function. Her work involves modeling forest structure and physiology through the integration of field data and two main technologies: light detection and ranging (lidar), and hyperspectral remote sensing.

The long-term goal of Thomas's work is to contribute to the improvement of national and global carbon exchange and climate models through a better understanding of forest ecosystem physiology across the landscape. By constructing the three-dimensional shapes of trees and their spatial arrangements using lidar data, Thomas can model light penetration through the canopy and its influence on photosynthesis. By combining these two technologies, "I hope to obtain a more complete model of canopy structure and function than is possible with either technology alone," she reported.



### Professor Burkhart recognized For Outstanding Service

Distinguished Professor Harold Burkhart was recognized for his years of service as head of the Department of Forestry at a reception last fall. Burkhart served as department head from 1995 to 2008. Dean Mike Kelly presented Burkhart with a plaque made from a 300-year-old white oak that had recently died and was removed from the grounds of The Grove, the university president's historic residence.

## Students Discover Water Quality Concerns in the Dominican Republic

Geography professor Tamim Younos led an interdisciplinary group of students on an eye-opening exploration of water sustainability in the Dominican Republic for two weeks last fall. As one of six condensed courses within the semester-long program, Younos and his students tested and analyzed water samples, making some alarming discoveries. They found *E. coli* contamination and saltwater protrusion in Punta Cana, a resort town on the country's east coast, as well as in nearby impoverished Verón, where most of the resorts' employees live.



*Students use a handheld sensor to detect contaminants in the water supply in the town of Verón.*

Verón, which is also home to a clinic of Virginia Tech's VCOM medical center, is an area of particular concern. Without the means to procure clean water, locals are forced to use the often-polluted groundwater. "The clinic's data shows that a lot of health problems are water-related," stated Younos. "A direct connection has not been established, but it's obvious that water contamination is a health issue." The region's poor water quality shows no signs of improving — continued run-off compounds the predicament of limited sources of potable water. "There is a total lack of sanitation and no sewer system," declared Younos. "I expect more problems."

The study abroad students stayed in the dorms of the Biodiversity Center of the Punta Cana Ecological Foundation, which promotes ecological development and job creation in tourism localities. They observed the stark contrast between the region's four-star resorts and the third-world conditions in which many residents live. "Coming from the United States, I was used to drinking out of the tap in my sink," recalled biology major Ben Webb. "My study abroad friends tried their luck with the water in the Dominican and quickly succumbed to its ill effects."

The students, who took courses in resources and the environment, field biology, world forestry and forest products, and basic Spanish in addition to water resources, suggested short-term solutions such as water-saving toilets and showerheads. They found that the only real long-term solution, however, is to implement an expensive water purification system to improve the current aquifer.

As a result of this research, Younos is spearheading efforts to improve the situation — he has started applying for grants to fund the program, and his research assistant, Caitlin Grady, who is visiting Punta Cana this summer, is working to make the local Biodiversity Center building a rainwater harvesting demonstration site. "We have a team trying to develop larger proposals for water supply management and other issues in the area," said Younos.

This fall when he participates in the Punta Cana program again, Younos plans to continue along the same vein, using the measurements the students collected last fall to direct his research with the next batch of study abroad students. "The next thing we're interested in is how the contaminants we found relate to the diseases people have contracted in the area," explained Younos.

## Hammett and Carstensen Create New Study Abroad Program

Tom Hammett, coordinator of international programs in the Department of Wood Science and Forest Products, and Bill Carstensen, head of the Department of Geography, created a study abroad program open to all majors entitled "Sustaining Human Societies and the Natural Environment." Carstensen and Hammett chose New Zealand due to its short history and its unique variety of plants and animals. With emphasis on global environmental issues on the rise, programs such as these strive to pave the way to better solutions and help facilitate more research.

In May and June of 2008, Hammett took a group of students to New Zealand's South Island, where they toured both rural and urban areas and studied different aspects of how humans impact the environment. They studied the effects of humans on marine wildlife and directly interacted with aquatic mammals such as dolphins and whales in Kaikoura, and examined invasive plants and land use changes on the Banks Peninsula in Christchurch. "Not only is the scenery beautiful, but

also extremely educational when studying the impact of humans on the environment," Hammett commented.

In December and January of 2008, Carstensen ventured to South Island with a group of students from Virginia Tech and the University of Montana, where their studies addressed topics similar to the previous trip, but also focused on the geography of the landscape. "New Zealand is an excellent focus for the program because it is environmentally sensitive. It is the last major land mass settled with a human history of only about 800 years," Carstensen commented.

Other locales in this study abroad program include Fiji, Australia, Antarctica, and Belize. Each country offers a wide spectrum of study topics, ranging from mining and forestry to horticulture, farming, and

*Bill Carstensen and his study abroad students visited Fox Glacier in New Zealand.*

urbanization. Hammett and Carstensen have set out to create not only a fun and exciting trip for students, but an educational experience that will introduce environmental issues caused by human interaction.



## DEVELOPMENT HAPPENINGS

### Campaigning for the College's Future

William Hopkins, associate professor of wildlife sciences and director of the Wildlife Ecotoxicology and Physiological Ecology Program, knows firsthand how critical research facilities are. "The facilities provided in Latham Hall were influential in my decision to move my research program to Virginia Tech," he reported.



*Bill Hopkins' lab in Latham Hall houses a one-of-a-kind piece of equipment on loan from the federal government — a velocity raceway that determines sub-lethal effects of common pesticides on small vertebrates. Hopkins' research aids in understanding how a changing global environment affects the health of declining wildlife groups.*

Facilities like those in Latham Hall are helping the college address the very real challenges of the natural world by educating professionals who understand how to balance conservation, management, and the use of natural resources in the 21st century. And without private support, Latham Hall would not be nearly as effective.

Dedicated in April 2006, Latham Hall was named to recognize the support of Bill and Elizabeth Latham, whose gift provided laboratory equipment, undergraduate research stipends, graduate student fellowships, and other forms of support. The laboratories made possible through the Lathams' generosity have already begun to make a positive impact. "The unique laboratory infrastructure provided in Latham

has enabled us to leverage significant funding from the National Science Foundation as well as industry, and to pursue interdisciplinary problems that require such state-of-the-science facilities," said Hopkins.

The college is committed to providing high-quality education for its students and giving its faculty the resources they need to conduct innovative research, both of which often require resources that can be hard to come by. Through *The Campaign for Virginia Tech: Invent the Future*, the college is reaching out to individuals who see the importance of the college's vision and research to the health and future of the natural world. Those individuals can, and indeed do, provide the resources that the college needs to continue its progress. The college is making good progress toward its campaign goal of \$10 million thanks to strong private support. Gifts to the college reached \$9.23 million as of the end of May; annual giving almost doubled in 2008. Support for academics and faculty are particularly strong.

But while these campaign successes are important, Dean Mike Kelly notes that a number of key components of the college's future still need funding, particularly in the area of research facilities and equipment. Given the outstanding success of Latham Hall, Dean Kelly would like to see the college's other research facilities reach their funding goals so they might also contribute to the college's overall success. "Although we are doing quite well in some respects," he said, "three very important goals have not been addressed — the Wildlife Research Laboratory, the Forest Products Research and Teaching building, and the Forest Research Laboratory." The college also hopes to create an endowment for the new meteorology program.

The campaign is scheduled to conclude on Dec. 31, 2010. Reaching the campaign goal for research facilities and equipment is a priority for Dean Kelly and the college. For more information on how you can ensure the future of the college by supporting its research initiatives, please contact development director Bob Mollenhauer at 540/231-8859 or [bobm5@vt.edu](mailto:bobm5@vt.edu).

## Alumni Profile Lisa Norris



Photo by Robert Rittenhouse

Not long after graduating from Virginia Tech, Lisa Norris ('79 B.S. in forestry with a concentration in fisheries and wildlife) left the field of forestry and earned an M.A. in English from Idaho State University in 1982. She eventually found her way back to Tech, where she began teaching English in 1991. She recently accepted a position as an assistant professor of English at Central Washington University in Ellensburg, Wash., trading her longtime home of Blacksburg for "a new one in another 'burg," while keeping a special place in my heart for Blacksburg."

While at Virginia Tech, Norris taught Seung-Hui Cho, the gunman responsible for the April 16th tragedy, an experience that will resonate with her indefinitely. In a recent email interview, she observed, "Is the shooting still on my mind? Of course. Can I go on teaching? Yes. I have wonderful students here at Central Washington, as I did frequently at Virginia Tech. I still see the beauty in the world, and in people, and of course I still feel brokenhearted for the families of the shooting victims and all who continue to suffer the aftereffects of the shooting. One can be brokenhearted and full-hearted at the same time."

Norris, who received the Willa Cather Fiction Prize in 2000 for *Toy Guns*, a collection of short stories, publishes fiction, creative nonfiction, and poetry. As a teacher, she strives to celebrate the students who are "lovers of words, appreciators of beauty, people with compassion for others and concern for the natural world." Her affinity towards nature appears in all her writing, drawing on her background as a fire dispatcher, Appalachian Trail ranger, and biological technician.

Her most recent piece, a poem called *Fish Seller*, focuses on the fate of the endangered wild salmon of the Pacific. "It was fall and the beauty of the place where I now live in Central Washington was also on my mind — you see some of the local landscapes in the poem," she reflected. Combining the beauty of the landscape and the fragility of the salmon, Norris created a poem that ultimately means to communicate that "the salmon's fate is the fate of all of us — we are all transients, all endangered. This is simply the way it is — not a reason for despair, but all the more reason to appreciate the present beauty of being." Norris' belief in "beauty of being," seen in her connection with nature, her appreciation of language, and her faith in humanity, trickles down to her students and readers.

## Fish Seller

Ellensburg, Wash., Sept. 2008

The fish seller recommends salmon from his home waters. "Wild is better," he says. "I'm from Ketchikan, and I don't believe in farm-raised." How un-middle American some people are from those exotic locations! Yet *outside* is where Alaskans say the rest of us are from.

Later I'm outside on a glorious late-summer morning, where — from a country road, I can see the snowy top of a volcano. It's that odd mix of heat against cold that makes me want to rut like the bugling elk while the tamaracks turn that special shade of a yellow more like the gold that got this side of the country settled, before it was outside the realm of wild, before it all turned on the blades of the harrow, before the necessities were carried in semis going ninety to nothing on roads we dozed for places powered by salmon-stopping hydroelectrics.

The fish seller says he came south for a dying mother. He says, "Those farm-raised fish, they fix em with dye and hormones. That's capitalism for you." "I hope you get to go back." "Oh I will." He grins, and in the dark space of his eyes, gray whales spout between ice floes, bald eagles line up for riches that swim. I know I want what the fish seller recommends — wild and free finning their home waters toward oblivion.

— Lisa Norris

## Alumni Events Calendar

## AUGUST 30-SEPTEMBER 3, 2009

139th Annual Meeting of the American Fisheries Society  
Alumni and Friends Reception  
Sept. 2, 4:30-6:00 p.m., The Bridge Lounge  
Renaissance Hotel and Nashville Convention Center  
Nashville, Tenn.  
[www.fisheries.org/afs09/](http://www.fisheries.org/afs09/)

## SEPTEMBER 20-24, 2009

The Wildlife Society  
16th Annual Conference  
Monterey Convention Center  
Monterey, Calif.  
[joomla.wildlife.org/monterey09/](http://joomla.wildlife.org/monterey09/)

## SEPTEMBER 21-23, 2009

Virginia GIS Conference  
Sheraton Richmond West Hotel  
Richmond, Va.  
[www.virginiagis.org/](http://www.virginiagis.org/)

## SEPTEMBER 28-30, 2009

Forest Products Society  
International Conference on Wood Adhesives  
Harvey's Resort Hotel and Casino  
Lake Tahoe, Nev.  
[www.forestprod.org/confadhesives09.html](http://www.forestprod.org/confadhesives09.html)

## SEPTEMBER 30-OCTOBER 4, 2009

Society of American Foresters  
2009 National Conference  
Alumni and Friends Reception  
Oct. 1, 2009, 7:00-9:00 p.m.  
Disney World Coronado Springs Resort  
Orlando, Fla.  
[www.safnet.org/natcon-09/events/alumni.cfm](http://www.safnet.org/natcon-09/events/alumni.cfm)

## OCTOBER 4-8, 2009

National States Geographic Information Council  
Annual Conference  
Renaissance Cleveland Hotel  
Cleveland, Ohio  
[www.nsgic.org/events/2009\\_conference.cfm](http://www.nsgic.org/events/2009_conference.cfm)

## NOVEMBER 1-4, 2009

Southeastern Association of Fish and Wildlife Agencies  
Annual Conference  
The Omni Hotel at CNN Center  
Atlanta, Ga.  
[www.seafwa2009.org/](http://www.seafwa2009.org/)



The long-awaited connector between Cheatham and Latham Halls, a timber-frame canopy, was completed this spring.

## Hokie Nation Network

Sponsored by the Virginia Tech Alumni Association



Want to network with College of Natural Resources alumni, faculty, and staff without leaving your office?

The Virginia Tech Alumni Association has launched **Hokie Nation Network**, a new social and professional networking site designed exclusively for Virginia Tech alumni, faculty, staff, and students.

Log on to [www.alumni.vt.edu/hnn](http://www.alumni.vt.edu/hnn) to join.

## 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 NC State.

**Saturday, November 21, 2009**

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!

## Virginia Techforlife



No, he is not headless! Cathy Barker, who coordinates the college's commencement, added a light touch with her smiley face balloon trailing visiting geography professor Bob Oliver, accompanied by associate dean for undergraduate programs Rich Oderwald (L) and geography department head Bill Carstensen.



## Graduate Student Pioneers Methods in Bog Turtle Research

No one had ever used sonar to study bog turtles until Danielle Bridgers did. The fisheries and wildlife sciences graduate student decided to use this sound-mapping technology on the species while completing her master's research project, which examines the reproductive cycle and nesting ecology of bog turtles in southwestern Virginia.

Amid skepticism, Bridgers successfully used sonar to examine the internal organs of female bog turtles. She uses the information obtained via sonar to better estimate when the turtles will begin to lay their eggs. "It was satisfying to prove that sonar would work with bog turtles," said Bridgers.

To research bog turtle nesting locations, Bridgers takes a team out in the field with her and observes where the turtles nest. "After the turtles lay their eggs, I look at why they chose one place over another," explained Bridgers. "They mostly select vegetated hummocks [knolls] or mossy areas, but two that I found chose a tree stump."

Bridgers shares her findings on the native turtle species with the Virginia Department of Game and Inland Fisheries to help the agency increase the bog turtle population in the commonwealth. "Understanding

ecological interactions and life history characteristics, such as reproductive ecology and nesting success, will allow resource managers to better predict how bog turtles may respond to environmental change," she remarked.

Because of the turtles' small size – the largest bog turtles grow shells of only four and a half inches in length – as well as their docile nature, they are heavily collected and sold in the pet trade. Predators such as raccoons, skunks, possums, foxes, dogs, and even birds feed on the eggs and hatchlings. As a result, the species has been federally listed as endangered in Virginia for 21 years.

Bridgers has had a preoccupation with turtles since she was a child. "My grandma used to give me turtle gifts when I was young," she recalled. "If I didn't choose bog turtles to study, it would have been another reptile."

Bridgers' work with bog turtles earned her a prestigious National Science Foundation (NSF) Graduate Research Fellowship award, which seeks out students who show potential to become leaders in their field. The award was unexpected by the Norfolk native. "I never imagined myself as an NSF fellow," admitted



Danielle Bridgers displays the bog turtle's characteristic trait – a bright orange, yellow, or red spot behind the ear.

Bridgers. "Receiving the NSF award is definitely an encouragement. I now have the confidence to pursue my Ph.D. and follow my research interests."

Bridgers' accomplishments extend beyond academics and research. She was recognized as the Fisheries and Wildlife Graduate Student Association Mentor of the Year for her work organizing the fisheries and wildlife orientation, and her efforts to encourage high school students in the Baltimore and Washington, D.C., areas to attend college. She also serves on the diversity committee and as a student ambassador for the college, and is a peer mentor for the Multicultural Academic Opportunities Program.

Bridgers wants to use her academic success to help others. "I plan on using the money from my award to increase the representation of underrepresented groups in higher education science programs," explained Bridgers.

Danielle Bridgers holds a bog turtle being screened with sonogram equipment by Richard Brunelli from Universal Ultrasound. Brunelli gave a demonstration of his company's latest portable ultrasound machine.



Juvenile bog turtles are captured and measured before being returned to their habitats.



Technician Megan Walker (second from left) and interns (L-R) Larissa Bridgers, Jasmine Bryant, and Jarrett Wansley are helping with this summer's field work.

Danielle Bridgers records the dimensions of bog turtles in their native nesting habitat.

