



CNRE NEWS

COLLEGE OF NATURAL RESOURCES AND ENVIRONMENT

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COLLEGE PARTNERS WITH PRIMLAND A NATURAL RESOURCES GEM IN THE BLUE RIDGE MOUNTAINS

One of Virginia's quiet treasures became better known when Primland, a 12,000-acre wilderness resort of forests, streams, and meadows near aptly named Meadows of Dan, showcased its partnership with the college during a Tree House to Trails Celebration this summer. The Primat family owners from France and Switzerland had gathered to debut the recently completed Golden Eagle Tree House, new nature and geocaching trails, and a field guide developed by the college.

With a deep love for its natural resources, Primland's founder, the late Didier Primat, purchased the vast tract of land in 1977 after a developer's housing plans failed. Following some timbering in the early years, the secluded property was primarily a hunting reserve until a golf course was added in 2006. Cottages and a 26-room lodge with a spa were built using environmentally friendly materials, some coming from the property. A high-powered telescope in the lodge's observatory gives guests one of the country's best opportunities to view the night skies.



The resort's Golden Eagle Tree House, uniquely designed around a large oak, is perched on a ridge, affording spectacular views of the Pinnacles of Dan (top photo).

In recent years, Primland's managers approached the college for assistance with best management practices for sustainability and long-term planning for the property. "We are always looking for ways to make our special setting better, as well as to pay homage to Primland's spectacular scenery and abundant wildlife," said Primland Vice President Steve Helms.



Primland President Harold Primat (L) and his siblings are dedicated to carrying on their father's legacy of environmental stewardship. Vice President Steve Helms (R) has been instrumental in forging the partnership between the college and Primland.

The Conservation Management Institute (CMI) took the lead for the college's projects at Primland. Executive Director Scott Klopfer describes the opportunity as "like being a kid in a candy store. The unique setting gives our research scientists as well as our students an amazing outdoor laboratory. There are few places left like Primland, where large tracts of private land are managed in a natural state."

Klopfer and Research Associate Michael St. Germain co-authored a 145-page field guide that hikers and beginning naturalists can use to identify the plants and animals they see on the property, which borders the Blue Ridge Parkway. Titled *A Field Guide to the Nature of Primland and the Blue Ridge Mountains*, the book features color photographs in addition to 130 detailed drawings of fish, amphibians, reptiles, birds, mammals, butterflies, tree leaves, and wildflowers drawn by St. Germain, an accomplished artist (see related story on back cover).



The artwork for the cover of the field guide was debuted by (L-R) co-authors Michael St. Germain and Scott Klopfer of the Conservation Management Institute, Bérengère Primat Serval, president of Primwest Holdings, Inc., and her sister, Flora Primat.

David Kramar, a CMI project associate who has studied eagles for many years, found golden eagles at Primland, the farthest south they've been observed in the East. He has been trapping the birds along the mountain ridges as part of a cooperative project funded by the Virginia Department of Game and Inland Fisheries and the Eastern Golden Eagle Working Group. Before releasing the birds, he outfits them with a telemetry device to track their migration. Scientists estimate that there are less than 2,000 golden eagles east of the Mississippi. In honor of the discovery of this magnificent raptor at Primland, the Primat family has named its stunning new accommodation the Golden Eagle Tree House.

The collaborative work at Primland has involved a number of Virginia Tech alumni. Carl McDaniel ('86 forestry), who joined Primland in its early days and now supervises the resort's hunting and outdoor activities, worked to identify potential undergraduate research topics of interest. Primland's horticulturalist, Scott Martin ('05 horticulture), was instrumental in assisting with CMI's cultural plant survey of the property. Jason Turman ('04 agriculture), the trail master at Primland, lent his time and expertise to the cultural plant survey and the development of the field guide. In addition, he and Aaron Teets ('08 biological sciences), one of CMI's field biologists, designed and developed Primland's two geocaching courses.

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Primland's sporting retreat attracts guests from around the world who want to hunt, fish, golf, hike, trail ride, and enjoy other recreational amenities amid a vast wilderness where only a few hundred acres have been developed. Primland's 12,000 acres are home to a wealth of flora and fauna.



PRIMLAND

I recently received an interesting letter from Herman Gabriel, a 1956 alumnus whose license plate in Montana reads "VPI 56." Herman enjoyed a successful career in forestry working for several agencies and in a number of enviable locations — Alaska and Ecuador among them. Herman now serves as editor for the National Museum of Forest Service History (nmfs-history.net). It is great fun for us to hear of your careers. Take a minute today to let us know what you've been up to since you left campus. In this issue you will read about a group of college alumni — Don Bright, Vance Wright, and Gary Robertson — who have recently purchased a hardwood sawmill in Virginia. Best wishes to them in their new endeavor!

The college participated in the first Virginia Forestry Summit last spring. Bringing organizations and agencies together once a year to meet under the forestry umbrella is good for the forestry community in Virginia. I had the pleasure of providing the keynote address and was pleased to have the college participate in the summit.



Dean Winistorfer joins fellow panelists at the Virginia Forestry Summit. (L-R): Janaki Alavalapati, head of the Virginia Tech Department of Forest Resources and Environmental Conservation; Carl Garrison, Virginia State Forester; Paul Winistorfer; Harrell Turner, chairman of the Virginia Chapter of the Association of Consulting Foresters; Michael Goergen, executive vice president of the Society of American Foresters; and Paul Howe, executive director of the Virginia Forestry Association.

(Photo courtesy of Virginia Forestry Association)

Forests and forestry are strategic tools for a growing world population that needs fresh water, clean air, biodiversity, and renewable materials.

Our fall enrollment is at a decade high, and all majors across the college are showing growth. We have outstanding students in the college if you are in need of good employees.

We enjoyed an early college homecoming date this fall with about 100 alumni and friends joining us on a cool September day. Thanks to those who participated with us. If you've not been on campus for a while, come join us next year for this annual fall gathering.

Our cover feature this issue tells the story of our rewarding college relationship with Primland. Forging a partnership with an organization that is managing 12,000 acres for multiple use and sustainability is rewarding for us, and we value the stewardship that Primland is providing to this property in Patrick County.

Finally, we are continuing our work to shape the future of our academic curricula in the college. We are moving forward in areas that encompass biomaterials and bio-energy, packaging systems and design, and craftsmanship and innovation, and are making plans for a future program in coastal ecology. We are working with partner colleges on campus to plan for an interdisciplinary bachelor's degree in water focusing on science, policy, and management.

Thank you for your support of the college this past year. I leave the office each and every day knowing that what we do is of critical importance to people and to the resources we manage and use.

Best wishes to you and your families for the holiday season.

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Other college projects have included developing GIS and vegetation maps of the property, studying bird habitat, and testing water quality around the golf course. Although the course was rated by *Golf Digest* this year as first in the state and 13th in the nation among public courses, Primland has opted to be environmentally conscious and pursue Audubon certification over hosting top-billed golf tournaments. The course is surrounded by tall grasses and small wetlands called biofilters to filter impurities and mitigate runoff, leaving no room for spectators. Stephen Schoenholtz, professor and director of the Virginia Water Resources Research Center based at the college, has been sampling streams around the golf course since spring 2010 to evaluate the effectiveness of the resort's best management practices.

"The college appreciates its special partnership with Primland, whose owners and senior management share with us the same passion and belief in managing and sustaining our natural resources for future generations," said Paul Winistorfer, college dean.



The Pinnacle Loop Trail is one of two geocaching trails designed and developed by the college's Conservation Management Institute. Guests use a GPS to find hidden containers revealing interesting facts about the history and natural wonders of the property. Primland also restored an old section of the Appalachian Trail that had been abandoned when the route was relocated years ago.

The golf course, which is irrigated with purified wastewater, is surrounded by tall grasses and small wetlands called biofilters to filter impurities and mitigate runoff. The Virginia Water Resources Research Center has been sampling streams around the golf course to evaluate the effectiveness of these best management practices.



"As we look for mutual opportunities to combine our collective strengths, we know that greater outcomes will follow," Helms added. "The College of Natural Resources and Environment and Primland share a passion for nature and the sustainable management of our natural resources here in the extraordinarily beautiful Blue Ridge Mountains of southern Virginia."



Everything at Primland's lodge was built with the environment in mind; all of the wood used is reclaimed. It is one of the only resorts in its class to be LEED (Leadership in Energy and Environmental Design) certified.

Irish Collaboration Offers Unique Opportunity

A group of students spent their 2011 spring break in Letterfrack, Ireland, learning about design and project management at the Galway-Mayo Institute of Technology (GMIT) as part of the study abroad course Culture, Natural Resources, and Design in Ireland. The group, led by forest products marketing professors Robert Bush and Tom Hammett, included students from the wood science department as well as four different colleges across campus. They were joined by three students and an instructor from the Southern Virginia Higher Education Center in South Boston, Va., building on a newly established partnership between the three educational institutions.



The Virginia contingent practices the ancient Irish sport of hurling. They held their own in a later match with GMIT students and faculty members.

GMIT-Letterfrack is home to the leading furniture and woodworking design program in Ireland and one of the top programs in Europe. It arranges 6-month on-the-job placements for its third-year students, and many of its graduates are employed by companies throughout Europe and North America.

The course introduced the Virginia Tech students to the focus areas of culture, natural resources, and design, and assigned them to work with GMIT students on team projects to take a product from design to market. Before the trip, in-class videoconferences, which included short lectures and discussions led by GMIT faculty, gave the students a chance to collaborate with their Irish teammates.

During the trip, students stayed at the Letterfrack campus, attending classes, working with their project teams, and experiencing the local culture, including guided tours focused on history and architecture, an interpretive hike in Connemara National Park, an evening of Irish song and dance, and a hurling match with GMIT students and faculty members. Before returning, the American students presented a seminar on strategies for making their teams' new products a reality.

"The course was a great learning experience for the students, and for me," Bush said. "The students were



(L-R) GMIT student James Ruddy, GMIT instructor Jeremy Madden, and wood science major Kyra Schaeffer discuss James' design for a mug holder.

enthusiastic and eager to learn, and our hosts were very accommodating. I look forward to leading the course again and to a growing relationship with the students and members of the faculty of GMIT-Letterfrack."

The ongoing collaboration with GMIT will continue in 2012. The study abroad course will be offered again in the spring semester, and two GMIT students will come to Blacksburg to complete their on-the-job placements. The college hopes to host a group of GMIT study abroad students in the near future.

College Grants Recent Alumna and Friends Awards

This year's Annual Awards Recognition Celebration honored some of the college's most accomplished students, prominent alumni, respected faculty, and cherished friends. Among the many awards presented were the following.



Charisa Morris ('99 B.S. and '06 M.S. in wildlife science) of Bowie, Md., received the **Recent Alumna Award - Graduate Degree**. After earning her bachelor's degree, Morris worked for the U.S. Fish and Wildlife Service (USFWS) where

she focused on endangered species issues and served as a congressional specialist. She continued at the USFWS while pursuing her master's, and took her current position as a fish and wildlife biologist with the Threatened and Endangered Species Program upon graduation. Morris' various duties with the USFWS have included serving as special assistant to the deputy directors and as a branch chief for the Consultation and Habitat Conservation Plan. She is the only conservation framework instructor for the United States and has trained over 90 biologists in 13 states. Morris has proven herself adept at fostering relationships among potentially conflicting groups and has demonstrated the ability to develop a shared vision and consensus among agencies and groups.



Helmut and Claudine Boehme of Sevierville, Tenn., were named **Friends of the College** for 2010-11. They have made considerable financial contributions to support the Wood Enterprise Institute as well as student scholarships in wood science. Helmut, a prolific

inventor and a successful businessman, studied woodworking and holds degrees in architecture and interior design. The couple began to study trees on their seven wooded acres in Tennessee. From this interest, Helmut started crafting historical musical instruments from local wood; his collection now consists of over 300 pieces. The Boehme's gifts to the college will allow current and future students to enjoy the benefit of their support.

View the complete list of 2010-11 college awards at cnre.vt.edu/cnr_pdf/2011-CNRE-Awards-Recognition-Program.pdf.

Giving Rebirth to the Henderson Sycamore

Many mourned when the ancient sycamore on Henderson Lawn at Virginia Tech had to be cut down last year. Standing prominently at the southern entrance of campus, the tree had slowly succumbed from a poor growing environment, root damage from underground utility work in the 1980s, fungal disease, and old age. The exact age of the tree is unknown, but it had been on campus since Virginia Tech's establishment in 1872.

Now, however, it seems the tree has been "reborn." John Seiler, Alumni Distinguished Professor, and several of his colleagues in the Department of Forest Resources and Environmental Conservation took over 300 cuttings from the tree before it was removed. Using the cuttings, six "clones" were successfully rooted and two have survived to a plantable size.

The tree had been a strong icon of both the university and the town of Blacksburg. "It's a really important tree to the town," said Seiler. "There was a big sense of loss in the community. We wanted people to feel better after the first one was cut down."



John Seiler (L) and Eric Wiseman check on the Henderson sycamore clone planted outside Cheatham Hall.

Despite the widespread use of the cloning process in forestry research, Seiler and his colleagues initially experienced a few problems. "We didn't have a very good success. It varies from species to species." Eric Wiseman, associate professor of urban forestry, added, "The time of the year made things more difficult." It took three iterations before a clone was successfully grown.

Plans have already been made for the two thriving clones. One was planted in front of Cheatham Hall in honor of spring 2011 graduation. The other is expected to return to Henderson Lawn once construction of the new Center for the Arts is complete. "A lot of people identified with the tree," said Wiseman. He and Seiler hope that the cloning of the old sycamore will help perpetuate its memory for future generations of students.

No Speedy Solutions for Afghans, Stiles Says in 9-11 Observance

Comparing the tribal regionalism in Afghanistan today to the pre-Civil War United States, Ken Stiles, CIA officer-in-residence in the Department of Geography, discussed the Afghan campaign at a 9-11 remembrance event at Virginia Tech on Sept. 13. "There's no strong central government to support," he said. "The Afghans are thinking of their families, their valleys. That's where their loyalties lie." He emphasized that the views presented were his own and not those of the CIA or the U.S. government.



CIA Officer-in-Residence Ken Stiles discussed his experience with the Afghan campaign in a 9-11 remembrance event on campus.

"It took our country several generations to develop a nationalist outlook, so why should we expect the Afghans to do it in 10 years?" Stiles asked his Burruss Hall audience. Even Afghanistan's boundaries were determined by an outside force — the United Kingdom — rather than cohesive political forces in the country itself. "This has aptly been named the 'Long War,'" Stiles said. "It may not continue at the same tempo, but it is likely to persist in some level of strife for years, in the way Israel has."

Stiles, a Geospatial Information Systems (GIS) expert with some 25 years of CIA experience, was asked immediately after 9-11 to set up a targeting cell — a combat-zone information and analysis squad — to support teams working with Afghan resistance groups. Using GIS, they worked around the clock to gather information, locate Taliban and al Qaeda forces, and determine the best way to attack.

As a visiting faculty member, Stiles is teaching a course on the ways the intelligence community uses GIS applications to support policy makers and military operations. His students are working with GIS maps of Civil War General Stonewall Jackson's Shenandoah Valley campaign.

The 9-11 event, which was open to the local community, was hosted by geography instructor John Boyer. He and Stiles held a question-and-answer session before a screening of "Charlie Wilson's War," a film based on a Texas congressman's covert dealings in Afghanistan in the 1980s.

Correction to Summer Issue

The cover story in the summer 2011 issue of CNRE News, "\$20 Million Grant to Improve Southern Pine Forests," should have said that Professor Tom Fox is the lead principal investigator on the \$3.4 million portion of the grant going to the college's Department of Forest Resources and Environmental Conservation.

College Continues Timbersports Legacy

The **Virginia Tech Forestry Club** hosted a “**Timberbeast**” competition last winter as a warm-up to the annual Southern Forestry Conclave. Faculty members Phil Radtke, the club’s advisor, and Jay Sullivan helped students organize the events, which included the speed chop, pole fell, axe throw, water boil, log rolls, and more. About 50 competitors and teams from Virginia Tech and other colleges and universities participated. After witnessing the competition, Mark and Tricia Jones, a husband-and-wife team who both compete on the professional timbersports circuit, volunteered to coach the Virginia Tech team.



Johanna Arredondo (L) and Kelly Keister (not shown) compete on their way to a third-place finish in the female crosscut saw event at Virginia Tech’s Timberbeast competition, while Scooter Cogar (C) and Mason Thomas support the cant.

The club’s leadership is eager to cultivate the club’s rich history while recruiting new members to the traditions of timbersports. “Traditionally the Forestry Club has mostly drawn from those majoring in forestry, but lately other majors from the college have been joining,” said Elizabeth Anderson, a natural resources conservation major.

At the conclave, the Virginia Tech team snagged first place in compass and pacing, pole classification, timber estimation, and wood technology, and took second in log chopping.

Marty M. “Scooter” Cogar II of Blackstone, Va., won the Stihl Timbersports Series Collegiate Southern Qualifier competition. Cogar, a junior majoring in wildlife science and environmental resource management, participated against 13 contenders in the standing block chop, single buck, stock saw, and underhand chop. “I believe that this is one of my best accomplishments in my life. I didn’t know that I would win at this level, but I knew that I had a good shot at it,” Cogar reflected.

Cogar has trained with professional choppers and sawyers across the Mid-Atlantic, including family members Paul, Arden, and Jamie Cogar. “I felt this gave him a better than 50-50 chance,” said Radtke. Cogar received a \$1,000 scholarship and a trip to compete in the Stihl Timbersports Series Collegiate Championship at the Oregon State Fair in August, where he placed fourth.

Scooter Cogar competes in the underhand chop event on his way to winning the Stihl Timbersports Series Collegiate Southern Qualifier.

(Photo courtesy of Danielle Hernandez, University of Georgia)



Lean@VirginiaTech Helps Businesses Do More With Less



LeanTeam members Adrienn Andersch (L) and Rebecca Buck prepare educational materials to share with plant employees during the team’s visit to Swan Corporation.

Students have established **Lean@VirginiaTech**, an organization dedicated to helping businesses become more competitive and profitable through education and hands-on support. Associate Professor Urs Buehlmann, who founded the organization with graduate students Christian Fricke and Mathias Schmitt, defines lean as “a management philosophy. The simplest definition is doing more with less. Lean is eliminating waste, and waste is everything that the customer does not value and thus is not willing to pay for.”

Though based in the Department of Wood Science and Forest Products, Lean@Virginia Tech is open to undergraduate and graduate students from any department or major. The student-driven, faculty-supported initiative has two branches – the LeanTeam@VirginiaTech and the LeanClub@VirginiaTech. “The LeanTeam is a place where students can enhance their learning of lean concepts by applying their knowledge and experience in practical business settings, while benefiting organizations across the commonwealth,” said Dean Paul Winistorfer. The LeanClub is a group of businesses that build a network with students, faculty, and other firms to support their lean transformation activities. All LeanClub events, such as summits and workshops, are organized by the student members of the LeanTeam.

Among their many efforts, the LeanTeam hosted a seminar at the 2010 International Woodworking Fair in Atlanta, introducing lean concepts to more than 150 participants and showing how the technology can be combined with other methodologies to achieve continuous improvement. Students traveled to Centralia, Ill., in spring 2010 to conduct onsite lean transformation events for Swan Corporation, a solid-surface producer for the kitchen and bath industry. A workshop on safety organized by the team is slated to take place this fall.

DuRant’s Research Gains National Attention

Wildlife science doctoral student **Sarah DuRant’s** research on wood ducks continues to be well received by the scientific community. She recently completed a research experiment, the first in a five-part research project with Associate Professor William Hopkins, that examined how incubation temperatures affect hormone development in ducklings. “My overarching question is how incubation temperature shapes characteristics important for duckling survival,” said DuRant.



Her experiment findings have been featured in a number of scientific publications, including *BBC Wildlife Magazine*, *Science*, and the *Journal of Experimental Biology* (JEB), the leading journal in comparative animal physiology, as well as the *JEB 2010 Annual Research Highlights Booklet*. DuRant and Hopkins were also featured in a video for Science Nation, a National Science Foundation initiative focused on bringing science to the general public with dynamic and entertaining short films.

The video visits DuRant and Hopkins in the lab examining embryo development in eggs and measuring ducklings, where they explain their research and how they hope their findings can be applied to wood duck conservation. “Because I investigate effects on traits important to survival, my research has conservation implications,” said DuRant. “This is something I try to write about in my manuscripts.”

Sarah DuRant returns a female wood duck to its nest at a wetland located on the Department of Energy’s Savannah River Site in Aiken, S.C.

Bass Fishing Team Returns to Nationals

Jody White, a fisheries science major and president of the Virginia Tech Bass Fishing Team, and partner Carson Rejzer, a building construction major, placed 11th at the 2011 FLW College Fishing National Championship held last spring. The students had qualified to compete by placing fourth in the regional championship last fall. White and Rejzer competed in the first two days of the competition, but did not qualify to compete the last day. “It’s great fishing with Carson, because he’s a good angler and I just have confidence that my partner is going to catch fish,” said White.

Rejzer teamed with **Wyatt Blevins**, a fisheries science major, for the Northern Division Regional Championship in September, where they placed third, earning a \$5,000 prize and a spot to compete in next spring’s national championship. Fellow Virginia Tech fishermen **David Bryant**, a natural resources conservation major, and **Preston Chrisman**, a fisheries science major, finished 17th.



Carson Rejzer (L) and Jody White took 11th place at the 2011 FLW College Fishing National Championship last spring. (Photo courtesy of FLW Outdoors)

Fair Places Second in Writing Contest

Brandon Fair, a sophomore fisheries science major from Mount Sidney, Va., earned second place in the Virginia Outdoor Writers Association, Inc., Collegiate Undergraduate Writing Contest. Students from the college have placed in the competition nearly every year.

Fair's essay, "Canadian Pinholes," describes one of his most memorable outdoor experiences with his father and his Boy Scout troop in Lake Opeongo, Canada. "I am truly blessed to have received this reward. I love to write, but, honestly, I get few opportunities to do so," Fair remarked. "My confidence in my writing was definitely boosted by receiving this reward."

Read Fair's winning essay at cnre.vt.edu/cnr_webpages/canadian-pinholes.html.

Brandon Fair



Feldhaus a Leader in Flag Football Officiating

Virginia Tech intramural sports graduate assistant **Jeff Feldhaus**, who is working towards a master's degree in forestry, was chosen for the second consecutive year to officiate the American Collegiate Intramural Sports National Flag Football Tournament last winter. More than 60 teams from across the country participated in the tournament, where Feldhaus was among the 12 officials chosen as All-Americans. "Being chosen as one of the best intramural officials in the country is an honor," said Feldhaus.



Jeff Feldhaus

Feldhaus hires and trains officials for all intramural sports at Virginia Tech and schedules teams, supervisors, and officials for regular season and playoff games. "Jeff has been a great asset to our staff," said Ben Smith, intramural sports coordinator. "We are proud that our intramural sports officials here at Virginia Tech are being trained by one of the best officials in the country."

This summer, Feldhaus traveled to Europe with three fellow members of the National Intramural-Recreational Sports Association to instruct and train military personnel to officiate flag football games. The team gave week-long clinics at military bases in Germany and Italy. "The chance to work with the U.S. Army in Europe was very unique because, over the past 30 years, very few people have had the opportunity to be a part of these clinics," Feldhaus added. "It was a privilege to give back to the men and women who give so much for our country."

Wildlife Major Leads 'The Fantasticks'

Alex Garretson, a wildlife science major from Rockville, Md., held a lead role in the Department of Theatre and Cinema's spring production of "The Fantasticks." The musical tells the story of Matt, played by Garretson, and Luisa, who meet and fall in love despite their parents' attempts to keep them apart. "We rehearsed for about three months and the show ran for two weeks with 14 performances," said Garretson. The cast rehearsed six nights a week, with an increased schedule of up to 12 hours a day during the week before the show's opening. Bravo, Alex!



Alex Garretson (R) held a lead role in the spring 2011 production of "The Fantasticks."

Davis NCAA All-American

Joe Davis of Sarasota, Fla., a senior majoring in conservation and recreation management, earned his first All-American honor at the NCAA Outdoor Track and Field Championships in Des Moines, Iowa, in June. Davis, a pole vaulter, set a personal record of 17' 2.5" on his first attempt, finishing eighth overall. The Hokie team took fifth place at the meet, its highest ever NCAA finish.



Hokie on the Hill

Senior **Alyssa Michnick** of Darnestown, Md., spent the spring 2011 semester in the Hokies on the Hill internship program. In this recently introduced program, interns receive six credit hours for working four days a week on Capitol Hill and an additional six credits for attending seminars where they discuss current



events and political topics such as the federal budget, health care reform, and legislative strategy. Students can earn additional credits through online courses or independent study.

Michnick's internship with the House of Representatives Committee on Agriculture focused on a range of issues, including conservation, energy, forestry, general farm commodities, nutrition, horticulture, rural development, and biotechnology. "I was completely immersed in the policy making, participating in all of the committee's hearings, daily ongoings, and administrative work," she reported. The urban forestry major thoroughly enjoyed the committee hearings with the U.S. Forest Service. "During one hearing, I actually got to sit behind the dais with the committee members as I witnessed the processes behind how forestry plans come to be," she noted.

Alyssa Michnick (R) with Congressman Frank D. Lucas, chairman of the House of Representatives Committee on Agriculture.

First Doctorate in Geography Department



Candice Luebbering became the first student to complete a doctorate in the history of the Virginia Tech geography department, earning her degree in geospatial and environmental analysis in May 2011. She earned a combined bachelor of arts degree in sociology and anthropology from Truman State University in Kirksville, Mo., before coming to Virginia Tech for graduate school. When asked what led her to the geography program, where she earned her master's, she said, "I was drawn to the benefits of being a member of a small, close-knit department where everyone knows each other, while set within the resources and opportunities of a large, successful research institution."

Combining her interest in language from her undergraduate studies with her focus in cartography, Luebbering chose to study the cartographic characteristics of language maps for her dissertation. Although language maps, such as a map of the distribution of the world's major languages, are often found in introductory textbooks, language is an extremely difficult variable to capture and place on a map. "There are currently no guidelines for language map construction and very little research on how it is done in practice," she said. "Given that in today's world more languages are coming into contact while many languages are going extinct, I set out to study how we currently map language and how we may apply new mapping technology to enhance language maps for educational and documentation purposes."

Luebbering, who said she has "always loved being a student and living a life of constant learning," received the 2011 Outstanding Doctoral Student Award for both the geography department and the college. She is currently a visiting assistant professor in the geography department and plans to pursue a career in academics that involves both teaching and research, continuing the life of learning that she has always enjoyed.

Student Creates Unique Furniture Design

Senior **Scott McDonald** examined the elements of furniture and the origins of aesthetics in a spring 2011 special wood science class in which he performed two major tasks: he developed a survey of aesthetics and created an original piece of furniture. The end product — an elliptical coffee table dubbed "Magnus" — can be rotated to form a rosette shape using magnets embedded under the table's laminate surface.

"Aesthetics is a difficult quality to describe," McDonald said.

"Amid the differences in furniture style and design choices, I wanted to look at what people think are good aesthetics and apply it to my own designs."

Over 200 people responded to an online survey McDonald developed, which included questions about aesthetic qualities of wood materials, pricing, and design elements such as height, shape, and style. McDonald presented his survey as a poster at the Forest Product Society's International Convention in June. He also entered "Magnus" into the Association of Woodworking and Furniture Suppliers' 2011 Fresh Wood Competition.

"Scott was able to show creativity and experienced the design process," said Associate Professor Dan Hindman, who guided McDonald's special study. "He was able to take his concept to completion and produce a finished product. I hope this class can serve as a model for encouraging future students to participate in design."



The magnets embedded under the laminate surface of Scott McDonald's elliptical coffee table allow the tabletops to "click" into preset positions.

Fox Awarded Fulbright to Chile



Forestry Professor **Tom Fox**, who was awarded a Fulbright Scholarship at the Pontificia Universidad Catolica de Chile in Santiago, Chile, spent the fall 2010 semester working with colleagues at the university's Center for Climate Change on a research project that compared carbon dynamics and carbon sequestration in tree plantations and native forests in Chile. He also taught a graduate class in biogeochemistry and forest soils while working with members of the Forest Productivity Cooperative to

improve the productivity, profitability, and sustainability of plantation forestry.

Janaki Alavalapati, head of the Department of Forest Resources and Environmental Conservation, said, "Dr. Fox's Fulbright Scholarship, the first for a faculty member in the department, not only enhances his research and teaching skills in a cross-cultural setting, but also strengthens the department's and the college's collaborative opportunities in teaching, discovery, and engagement with the Pontificia Universidad Católica de Chile, the Universidad de Concepción, and the Universidad Austral de Chile.

Fulbright Scholars have the opportunity to observe other political, economic, educational, and cultural institutions to exchange ideas and enhance the general welfare of the world. Award recipients are evaluated on academic or professional achievement and leadership potential, and strive to promote mutual understanding and respect between the United States and other countries.

Holliday Earns NSF Early Career Grant

Jason Holliday, assistant professor of forest genetics and biotechnology, is using a \$1.5 million Faculty Early Career Development Program grant from the National Science Foundation to gain insight into how tree populations adapt at the genomic scale as a result of climate change. "Although forest tree populations are well adapted to their local environments at present, climate change is substantially altering adaptive landscapes and is expected to lead to widespread maladaptation of tree populations to their seasonal temperature regimes," said Holliday.

Holliday has employed similar genomic tools to study local climatic adaptation in Sitka spruce. The current study, in collaboration with colleagues from the University of Florida and the University of Alberta, will extend this work in black cottonwood, an ideal species for understanding the genomics of adaptation because it has a small, fully sequenced genome, it can be vegetatively propagated, allowing for more accurate measurement of traits, and its natural range is climatically diverse.



Jason Holliday tends to rooted poplar cuttings that will be planted at the Reynolds Homestead.

In collaboration with Assistant Professor and Extension Specialist John Munsell, Holliday will also develop investigative field workshops for landowners, practitioners, and students as part of Virginia's Link to Education About Forestry program. Participants will explore the relationship between climatic adaptation and seed sources, as well as the potential impacts of climate change on forest productivity.

Edgar Develops New Methods for Cellulose Synthesis



Biomaterials Professor **Kevin Edgar** was awarded an \$800,000 grant by the U.S. Department of Agriculture's National Institute of Food and Agriculture to fund research on developing new methods for cellulose synthesis. Cellulose from trees and other plants is used in drug delivery systems

and in a wide variety of commercial products, including adhesive tape, laundry detergents, and latex paints. The dwindling availability of petroleum supplies has led to intense interest in biobased fuels and materials. Cellulose derivatives are especially promising because of the great abundance and valuable properties of renewable cellulose.

Unfortunately, scientists are still limited in their ability to synthesize specific cellulose derivatives due to a lack of control in existing methods to modify the cellulose molecule. "Current methods are crude," said Edgar, who has spent nearly 25 years researching polysaccharide synthesis. "We're looking for more precision and better control of the synthesis processes that can yield more specific products with superior performance." These novel methods could greatly augment the commercial production of natural-based materials, as well as open up a wide array of applications for cellulose derivatives. "It's a renewable, sustainable material, and could potentially move us away from dependence on fossil fuels," he added.

Goodell's Cellulose Research Featured in Science

Science, the world's leading journal of original scientific research, featured the findings of a global team of cellulose researchers, including Professor **Barry Goodell**, head of the Department of Wood Science and Forest Products, in its July 14 issue. The diverse group has been studying how plants are decomposed at the end of their life span in order to provide insight into several important issues ranging from the development of cellulosic biofuels to the cycling of carbon in the environment.

"The journal article details how common 'wood rotting' fungi have evolved with plants to become highly efficient degraders of plant biomass in nature," said Goodell. "In particular, our research team showed that certain types of fungi became more energetically efficient over time as they



adapted to the evolutionary changes that occurred in trees — a co-evolutionary process." How woody plants evolve and how fungi work symbiotically with them is important for a number of reasons, including the development and sustainable production of biofuels.

While the article's primary author is from England, labs from around the world worked on the project. "The international collaboration demonstrated the global relevance of the research, and it was essential to have this sort of teamwork to move a project of this size forward," noted Goodell. "The research has practical implications in that it provides tools to deconstruct cellulosic materials and wood by mimicking nature to produce some of the basic building blocks that are needed in green industries." The work also points to new biochemical pathways for the deconstruction of cellulose from sustainable biomaterials that will be useful in the production of feedstocks for cellulosic biofuels.

Promotions and Tenure

The Virginia Tech Board of Visitors has granted several college faculty promotions and approvals for tenure. *Promotion to associate professor with tenure:* **Yan Jiao**, fish and wildlife conservation; **Korine Kolivras**, geography; **Scott Rennekar**, wood science and forest products; **Marc Stern** and **Eric Wiseman**, forest resources and environmental conservation. *Approved for tenure at currently held rank of associate professor:* **Amy Brunner**, forest resources and environmental conservation. *Promotion to senior Extension agent:* **Adam Downing**, Madison County Cooperative Extension. *Promotion to Extension agent:* **Bill Worrell**, Russell County Cooperative Extension.



Yan Jiao



Korine Kolivras



Scott Rennekar



Marc Stern



Eric Wiseman



Amy Brunner



Adam Downing



Bill Worrell

Mortimer Studies Controversial Legislation



A new study published in the *Journal of Forestry* has found that the U.S. Forest Service paid \$6.1 million in legal fees to groups that have successfully sued it from 1999 to 2005.

Michael Mortimer, director of Natural Resources Programs in the National Capital Region, conducted

the study along with Robert Malmshiemer of the State University of New York College of Environmental Science and Forestry. Their report emphasizes the controversy behind the Equal Access to Justice Act (EAJA), which requires the federal government to pay attorneys fees when it loses a case.

The researchers found that \$3.2 million of the \$6.1 million went to environmental groups; the most frequent litigators included the Sierra Club Legal Defense Fund, the Center for Biological Diversity, and Earthjustice. The study suggests the EAJA is a "positive incentive" for litigation since it can "alter litigation risks among potential plaintiffs." However, they caution against concluding that the EAJA is an outright driver of litigation, arguing that some groups "are quite well financed and therefore not the class of plaintiffs for which the law was designed to provide access to the expensive federal litigation system." The vast majority of litigation parties were only involved in one lawsuit. "The study should help inform the current congressional efforts to amend and reform the EAJA reporting process," Mortimer said.

HOKIES UNITED

Alumni Form Lumber Company

Don Bright ('98 B.S. in wood science) knew **Vance Wright** ('94 B.S. in forestry), who knew **Gary Robertson** ('93 B.S. in forestry) since grade school. The three, who have all been involved in logging or lumber businesses in Southside Virginia since graduation, started Meherrin River Forest Products in Alberta, Va., in July, along with Wright's brother, Alan. They purchased an existing sawmill on a site that has housed a lumber company since the early 20th century, with hopes to ramp up production from its current level of 8 million board feet per year to 11.5 million board feet per year, the mill's 2007 production level. Lumber produced at the 24-employee facility is used in pallets, cabinets, furniture, flooring, and other applications.

Although the industry took a hit in 2008, the partners see signs of improvement in the economy and remain optimistic. "We feel we have a great opportunity to grow," said Bright, who left his position as vice president for Morgan Lumber Company, where he had been employed since graduation, to take the helm as president of Meherrin River Forest Products. Robertson and the Wrights are not as involved in day-to-day operations but take part in decision making and



The gang's all here! (L-R): Kim and Gary Robertson, Rachel and Alan Wright, Kimberly and Don Bright, and Laurie and Vance Wright with the next generation of Hokies.

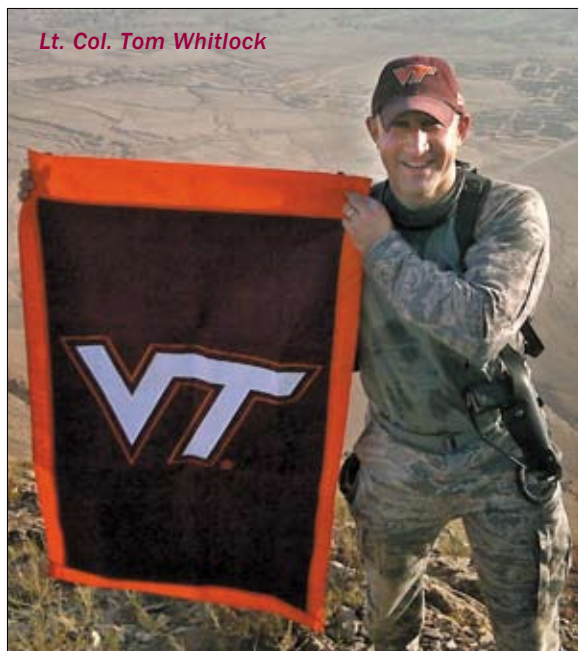
overall management. They continue to run their timber buying and timberland management company, Union Level Land and Timber, as well as their own logging operations.

All of the partners lead full lives. For the past 21 years, Robertson has been active in the Buckhorn Volunteer Fire Department, responding to at least half of the

calls at all hours, and has a farm operation with his father, raising cattle, soybeans, and corn. Vance Wright has been Concord Baptist Association's disaster relief coordinator and enjoys mission work. He and his wife, Laurie ('96 B.S. in forestry) are featured with their children in a parenting DVD called *Today's Families: The Wonder of Toddlers*. Bright's wife, Kimberly ('98 B.S.), and Alan Wright's wife, Rachel ('94 B.S.), both studied agriculture and applied economics at Virginia Tech. The four partners have seven young children among them, whom they hope will become the next generation of Hokies.

Bright currently serves as president of the College of Natural Resources and Environment Alumni Board and has served on the board since he was named the college's outstanding young alumnus in 2006. He is also a regular

guest lecturer for the Introduction to Forest Products Marketing course. "Vance, Gary, and I are extremely grateful for the education and career guidance we've received from the college," said Bright. "It has been critical in our professional success. Not only did we make lifelong friends at Virginia Tech, but we have now cultivated a strong business partnership."



Lt. Col. Tom Whitlock

Hokie Hero

Virginia Tech Corps of Cadets alumnus **Lt. Col. Tom Whitlock** ('95 B.A. in geography and '95 B.A. in history) of the U.S. Air Force was selected as the Hokie Hero for the Virginia Tech versus Arkansas State University football game on Sept. 17, 2011. The Hokie Hero program, which honors corps alumni who are currently deployed, highlights heroes during the radio broadcast of Virginia Tech football games, on the websites of the corps and corps alumni, and in *Corps Review* magazine.

Whitlock, from Fredericksburg, Va., is on his third combat deployment. He is currently stationed at Camp Phoenix in Kabul, Afghanistan, as the director of communications at the Combined Joint Interagency Task Force 435, which conducts civic operations in support of the Rule of Law. Whitlock sends his love to his wife, Christi; their children, Connor and Ashleigh; and all their family from Virginia and Oklahoma.

Alumni Events Calendar

FEBRUARY 24-28, 2012

American Association of Geographers
2012 Annual Meeting
Hilton New York and Sheraton New York Hotel and Towers,
New York, N.Y.
www.aag.org

MARCH/APRIL 2012

American Fisheries Society Student Chapter
29th Annual Mudbass Tournament
Duck Pond; Time and Date TBD
Blacksburg, Va.

MARCH 12-17, 2012

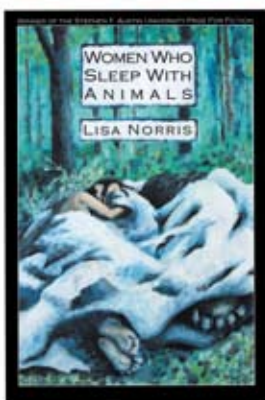
Wildlife Management Institute
77th North American Wildlife
and Natural Resources Conference
Hilton Atlanta, Atlanta, Ga.
www.wildlifemanagementinstitute.org

JUNE 3-6, 2012

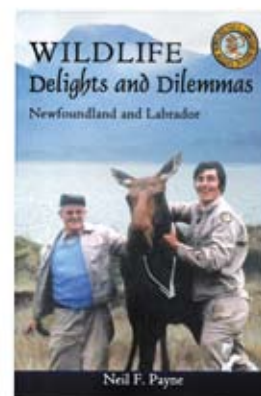
Forest Products Society 66th International Convention
Washington, D.C.
www.forestprod.org

ALUMNI AUTHORS

The latest book by **Lisa Norris** ('79 B.S. in forestry with a concentration in fisheries and wildlife), a collection of short stories called *Women Who Sleep With Animals*, won the 2010 Stephen F. Austin State University Press Fiction Prize and was a finalist for the Spokane Prize. The book's nine stories offer glimpses of women and animals in their moments of extremity, in settings ranging from the suburbs to wildlife reserves. Her first book, *Toy Guns: Stories*, won the Willa Cather Fiction Prize in 1999; her stories, poems, and creative nonfiction have been published in a number of outlets. Norris, who taught English at Virginia Tech from 1991 to 2007, is now a professor of writing and literature at Central Washington University.



Neil F. Payne ('64 M.S. in wildlife) has recently completed a new book entitled *Wildlife Delights and Dilemmas*. Payne's fifth book highlights the successes and frustrations of the Newfoundland and Labrador Wildlife Division, drawn from his experience as the division's first furbearer biologist from 1967 to 1971, as well as amusing, historical, dangerous, and fascinating stories from other early wildlife workers. Among his other publications are three comprehensive books on techniques of wildlife habitat improvement for wetlands and uplands in North America. A professor emeritus of wildlife at the University of Wisconsin-Stevens Point, Payne taught full time and conducted research from 1975 until his retirement in 1998. He currently splits his time between Plover, Wisc., Sanibel, Fla., and Campbellton, Newfoundland.



Become an Alumni Mentor

The College of Natural Resources and Environment Alumni Board invites CNRE alumni to serve as mentors for current CNRE students. Mentors are asked to serve one-year terms, though serving multiple years is encouraged. Primary contact with students is via email. If you are interested, please email Lane Guilliams, director of alumni relations, at laneg@vt.edu and include "Mentor Program" in the subject line. This program is a great way to help future graduates of the college gain an understanding of natural resource careers!

Do You Want To Learn More?

Alumni, are you looking for continuing education, professional development, or online learning opportunities? Visit these websites for more information:
The Natural Resources Distance Learning Consortium nrdlc.org
VTalumnNet for Virginia Tech Alumni alumni.iddl.vt.edu
Natural Resources Programs in the National Capital Region natrespro.nvgc.vt.edu
Virginia Tech Extended Campus centers www.vt.edu/where_we_are/extended.html
Virginia Forest Landowner Education cnre.vt.edu/forestupdate

When he's not traveling to the Dominican Republic, Belize, or sites across Virginia as a project supervisor and research associate at the college's Conservation Management Institute, graduate student **Michael St. Germain** may be found painting a mural along Blacksburg's Draper Road. The first in a series of town-commissioned wall paintings aimed at beautifying downtown, St. Germain's work depicts a riparian scene teaming with fish, birds, mammals, cattails, black-eyed susans, and redbuds.



"I am fortunate for the opportunity to combine art and science to educate people about the world around them."

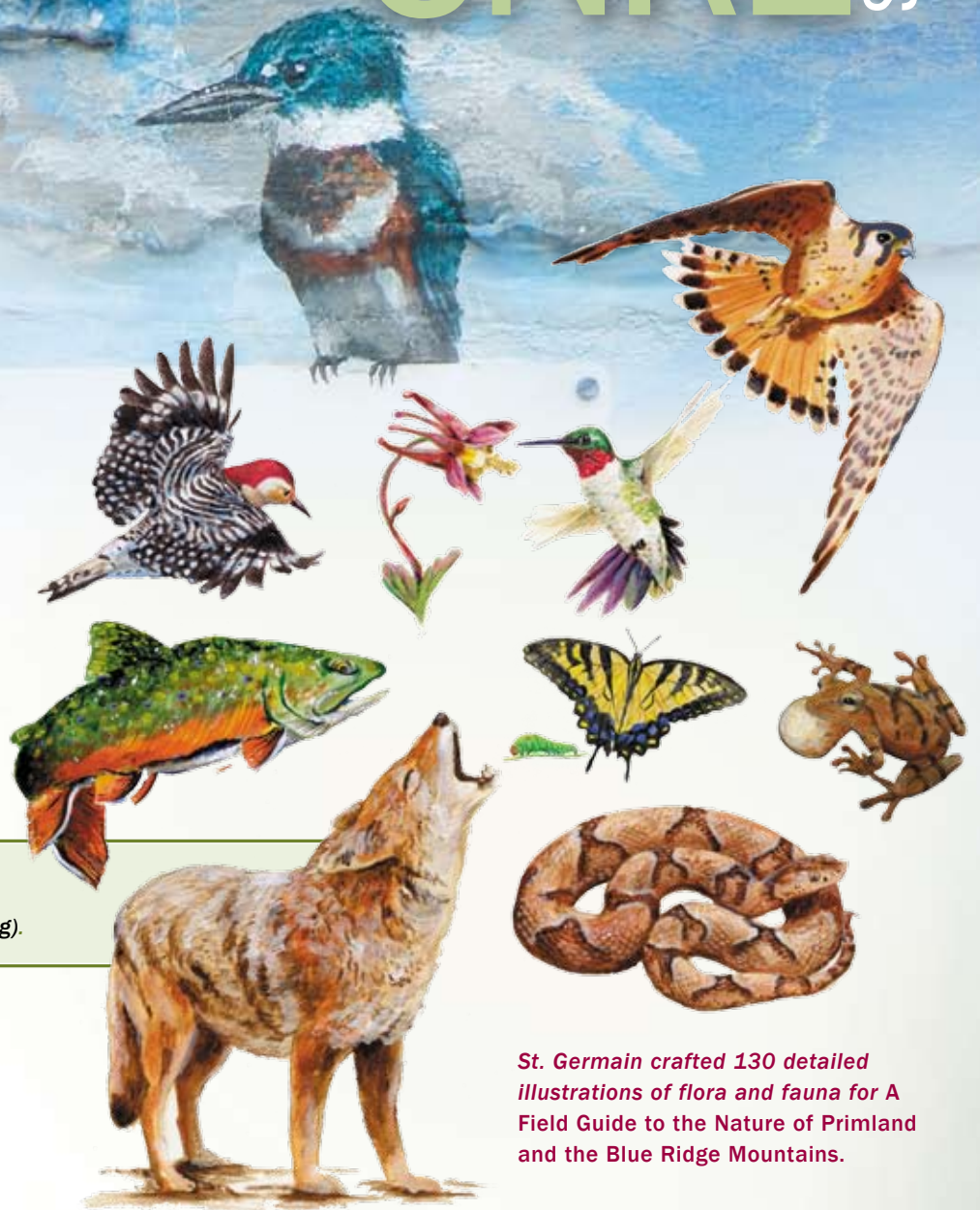
St. Germain's mural on Draper Road in Blacksburg (left and above) depicts a riparian scene teaming with plants and animals.

View an interview with Michael as he works on his mural in downtown Blacksburg (www.youtube.com/user/wtobchannel2#p/u/2/uh3dA3IRJFg).

"It's a water-quality awareness painting," St. Germain explained. "Stroubles Creek runs almost directly underneath the site. The mural shows how the location would look if Blacksburg hadn't been built over it." St. Germain will identify the plants and animals in the mural to increase its educational value.

This is not the only piece of St. Germain's art to beautify Blacksburg; his four HokieBird statues grace the community as part of the Blacksburg Partnership for Gobble De Art program. "Hokie Stone," voted best statue by the Roanoke Times, stands outside the University Mall, while "Hokie Kopia" occupies Squires Student Center. "Gentleman's Manor" resides at the German Club's manor house on Southgate Drive. "Hyer A. Hokie," created in the likeness of Virginia Tech alumnus Garnett Smith, stands inside the Smith Career Center and appeared on the cover of the university's 2010-11 Career Planning Guide.

Another major display of St. Germain's artistic talent, which he honed while studying fine art at Syracuse University, made its debut in July in *A Field Guide to the Nature of Primland and the Blue Ridge Mountains* (see related story on page 1). St. Germain co-authored the 145-page guide with Scott Klopfer, executive director of the Conservation Management Institute, and created 130 detailed illustrations of flora and fauna found at the 12,000-acre Primland Resort near Meadows of Dan, Va.



St. Germain crafted 130 detailed illustrations of flora and fauna for A Field Guide to the Nature of Primland and the Blue Ridge Mountains.

St. Germain, who earned his bachelor's in wildlife biology from the University of Rhode Island and expects to complete his master's in wildlife science in December, likes to joke about his circuitous career path: "I found out it was difficult to make a living in art, so I got a degree in wildlife biology, where making a living is also challenging. I increased my chances by combining the two."

He is currently conducting research on the diversity and habitat use of bats, birds, and amphibians. An institute employee since 2001, St. Germain has worked in remote locations in Alaska, Arkansas, New England, Peru, and Nepal, to name a few. Work on carbon offsets projects have kept him shuttling back and forth between Blacksburg and the jungles of Belize for the past two years. "I'm addicted to adventure," he says.



St. Germain and his wife, Shannon ('02 M.S. in fisheries and wildlife sciences), are parents of a three-year-old son, Jonathan, whose interests to date seem more automotive than artistic or biological.

St. Germain has created four HokieBird statue designs (L-R): Gentleman's Bird, Hokie Kopia, Hokie Stone, and Hyer A. Hokie.



Earth Week 2011

Over 70 students, faculty, and community members gathered to plant 25 native hardwood trees during one of the many Earth Week 2011 events on campus. (L-R) Janaki Alavalapati, head of the Department of Forest Resources and Environmental Conservation, Virginia Tech President Charles W. Steger, and Virginia Secretary of Natural Resources Doug Domenech ('78 B.S. in forestry and wildlife) started things off with the planting of a ceremonial tree.

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