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TODAY'S EDITION
See page 2 for winter-weather traffic information.

Getting jump on hackers is goal of Tech/NSF project

By Liz Crumbley

Tom Martin is working to head culprits off at the pass. With a $400,000 National Science Foundation Information Technology Research (ITR) grant, Martin and colleagues Dong Ha and Michael Hsiao of the Bradley Department of Electrical and Computer Engineering (ECE) are attempting to protect battery-operated computers from security attacks that could drain their batteries.

Martin's own notebook computer gave him the idea for the project. One day the computer's fan started running—for no apparent reason—and draining the battery.
"I discovered that a hacker had broken into my computer and was running software so power-hungry that the fan came on," said Martin, who also had recently read an article speculating that hackers could deliberately drain a battery.

In addition to direct attacks, hackers could develop viruses that would drain the battery in any type of computer, he said.

Wireless devices also are vulnerable to battery attacks. "For example, if someone sends a constantly repeating message over a wireless network to a cell phone or a personal digital assistant, the device's battery could be drained just by checking the message to see if it is valid," Martin said.

The researchers are trying to find ways to build hardware and software that will enable battery-operated computers and wireless devices to withstand such attacks. "Our project is aimed at creating rules and tools for the design of devices so their batteries can't be drained faster than expected under normal usage," Martin said.

Although cases of deliberate battery drainage have not yet proliferated, the potential for "denial-of-service" attacks poses concern for the wireless industry. "If your cell phone were frequently drained of power within 15 minutes, you'd stop using it or think that it was broken," Martin said. "If hackers develop viruses that can drain your computer's battery at will, you'll be denied the service of that computer."

Martin also pointed out that in the 1980s no computer viruses existed. "But during the late 1980s and early 1990s, as computer use took off, viruses became a problem," he said. If Martin and his colleagues can develop built-in measures for preventing attacks on batteries, that particular problem may never have a chance to spread.

Darwin Correspondence Project receives Queen's prize

By Sally Harris

The Darwin Correspondence Project, based at Cambridge University and directed by botany Professor Duncan Porter, has received a Queen's Anniversary Prize for Higher and Further Education.

The prize recognizes and rewards the outstanding contribution that universities and colleges in the United Kingdom make to the intellectual, economic, cultural, and social life of the nation. "It is a great honor to have won this prestigious prize," Porter said. "I salute the project staff for having made it possible."

The Darwin Correspondence Project involves transcribing, editing and publishing more than 14,500 letters written and received by Charles Darwin throughout his life. The project has published 12 of a projected 32-volume set of Darwin's letters, *The Correspondence of Charles Darwin.* Volume 13 will be published next month.

The letters provide a good historical view of the way the scientist's ideas took shape as well as the years he spent traveling on *HMS Beagle* and the years leading up to his *Origin of Species*. That book outlined Darwin's theory of evolution by natural selection and started a never-ending debate over its validity.

Darwin exchanged letters not only with distinguished scientists, but also with people of all walks of life who could help him with his research—gardeners, army officers, fur trappers, among many others. The Darwin Correspondence Project is housed at Cambridge University, whose library has 9,000 of the approximately 15,000 known Darwin letters. Cambridge also houses the collections of plants, fish, and geological specimens that Darwin shipped back from the Galapagos Islands and elsewhere on the *Beagle* voyage. Porter was the first to identify many of the plants, which were important in Darwin's development of his theory of evolution.

Porter spends about three months each summer at Cambridge. Before becoming project director, Porter served from 1991 until 1997 as senior editor. In this capacity, he helped edit volumes eight-10 of the *Correspondence*. Now, as director of the correspondence project, he has done work ranging from fund raising to researching and writing preliminary footnotes for the letters.

The project is jointly managed by the American Council of Learned Societies and Cambridge University Library. In addition to the Cambridge office, which has eight editorial and production staff, there are offices at Virginia Tech, Cornell University, and Bennington, Vt.

The Darwin Correspondence Project received the first Modern Language Association of America Morton N. Cohen Award for a Distinguished Edition of Letters in 1991.

Funding sources for the project include

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Wood-science professor partners with Taiwan university

By Sarah Kayser, University Relations intern

Fred Kamke, wood-science professor, recently visited Tsai-Yung Chen, professor in the forestry department of the National Chung Hsing University (NCHU) in Taiwan, to foster cooperative research and instructional programs in the area of natural resources.

Developing strong relationships with international universities has been an ongoing priority at Virginia Tech. The memorandum of understanding signed between Virginia Tech's Wood Science and Forest Products Department in the College of Natural Resources and the Taiwan university furthers such international ties.

Kamke began his Far East tour in Beijing China, where he presented "WBCSim: a Web-based Problem Solving Environment (PSE)," at the International Academy of Wood Science Annual Meeting. Essentially, Kamke introduced a new on-line process-simulation system for researchers, students, and process engineers interested in process improvement or new-product development for the wood-based composites industry. His work has been a collaboration with faculty members in the Department of Computer Science at Virginia Tech.

A PSE consists of an integrated set of computing tools that support users in the solution of problems. PSE's allow users to define and modify problems, choose solution strategies, interact with and manage appropriate hardware and software resources, visualize and analyze results, and record and coordinate extended problems solving tasks. The use of a Web-based PSE allows instant access to this technology from all over the world.

After the Beijing presentation, Kamke gave an invited presentation at NCHU in

(See WOOD-SCIENCE on 3)

University wildlife professor goes global with jaguars

By Sarah Kayser,
University Relations intern

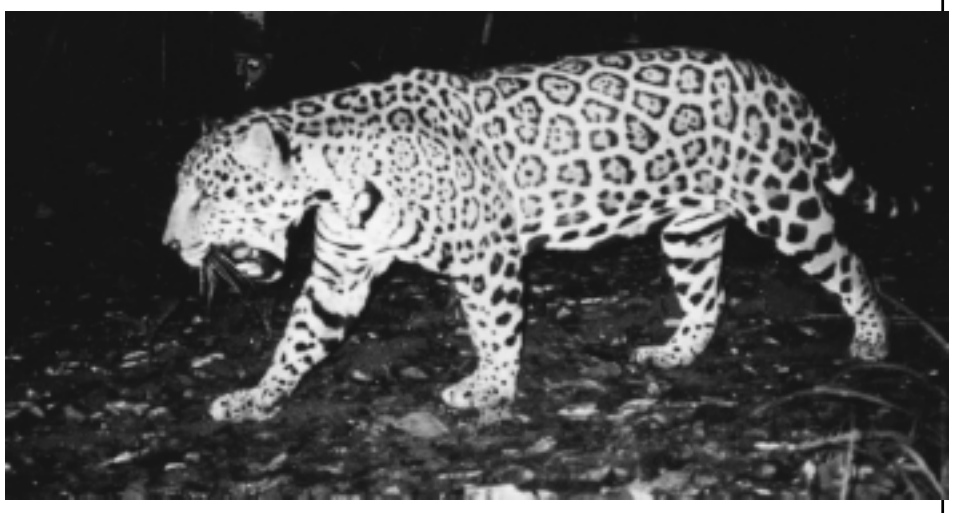
Have you ever wondered how wildlife photographers are able to catch that indescribable image of a wild animal swiftly and methodically attacking its prey? Marcella Kelly, assistant wildlife professor in the College of Natural Resources, does just that for jaguars of the Chiquibul Forest Reserve at Las Cuevas Research Station in Belize, Central America.

The name jaguar comes from the Tupi-Guarani Indians of Amazonia, whose word *yaguara* means "a beast that kills its prey with one bound." Kelly uses infrared remotely triggered cameras to photograph jaguars. Because jaguars have distinct coat patterns, individuals can be identified from photographs and a "capture" history established for each animal. This project will produce the first density estimates of jaguars in tropical rainforests.

Kelly's research involves using new technology to collect much-needed data on elusive, endangered species. Each day, Kelly's research team sets out through the rainforest of Belize to cut trails and establish camera stations in the dense jungle. It is better if the stations are under complete tree canopy cover because the slightest motion or heat disturbance can activate a camera. "With all of the wires and placement requirements (e.g. clearing the site), it takes over an hour to set each one up," Kelly said.

"The jaguars seem to show curiosity towards the camera's flash," according to Kelly. Researchers place a pair of cameras every three square kilometers to keep track of the jaguars. The cameras are checked once every 10 days. "We found that most of the same jaguars come back to have more pictures taken of them," Kelly said. "The real problems come from the

(See WILDLIFE on 2)



A jaguar in Belize is captured on film as part of Marcella Kelly's research. (*M. Kelly*)

ACTIVITIES

EVENTS

Friday, 6

International Club Program, 5 to 6:30 p.m., Cranwell Center.

Theatre Arts Event, 8 p.m., Squires Studio Theater: "Made in Taiwan."

Saturday, 7

Football, 1 p.m.: At Miami. ABC television.

Chamber Music, 8 p.m., Squires Recital Salon: "Baroque Masters"

Men's Basketball, 7 p.m.: At William and Mary.

Sunday, 8

Chamber Music, 3 p.m., Squires Recital Salon:"Baroque Masters."

Monday, 9

VTU Program, 7:30 p.m., Burruss auditorium: "A Wonderful Life."

Men's Basketball, 7 p.m.: At East Carolina.

Tuesday, 10

Faculty Senate, 7 p.m., 1060 Torgersen.

New River Valley Symphony, 8 p.m., Squires Recital Salon.

Wednesday, 11

Classes End.

Leadership Development Workshop, 9 a.m. to 3 p.m., DBHCC rooms D, E.

Holiday Buffet, 11:30 a.m. to 1:30 p.m., DBHCC.

"With Good Reason," 7:30 p.m., WVTF.

Ensemble Concert, 8 p.m., War Memorial Chapel: Trombone Ensemble.

Thursday, 12

Reading Day.

Friday, 13

Exams Begin.

SEMINARS

Friday, 6

MCBB, 12:20 to 1:10 p.m., Fralin auditorium: Ron Mittler, Iowa State.

Biomedical Sciences, Engineering, 3 to 4 p.m., 110 Holden: Zoubeida Ounaies, VCU.

MSE, 3:30 p.m., 100 Hancock: Adam Goff, Morsi Mahmoud.

STS, 4 p.m., 132 Lane: Lindley Darden, University of Maryland.

Monday, 9

Horticulture, 4 p.m., 409 Saunders: Margaret Pooler, USDA.

Biochemistry, 4 p.m., 223 Engel: William Marcotte, Clemson.

BULLETINS

Limited submission funding available

Many funding agencies place limits on the number of proposals or applications that a university may submit in response to a particular announcement. To prevent any potential disqualification of submissions coming from Virginia Tech, the Office of the Vice Provost for Research reviews submissions from Tech.

There is one limited-submission opportunity internal deadline remaining in December:

December 19: Gender Diversity in Science, Technology, Engineering and Mathematics Education GDSE) NSF 03-502.

See *www.research.vt.edu/research/limitsubs/index.html* for details.

To receive e-mail reminders of funding opportunities and related information, send a note to *lizacker@vt.edu.*; or visit *www.research.vt.edu/funding/*.

EHSS distributing electronic *SafeTalk*

Environmental, Health and Safety Services has begun electronic distribution of its quarterly newsletter, *SafeTalk*, starting with its fall, 2002 issue. No printed copies will be distributed except to areas where e-mail and web access are limited.

To continue receiving *SafeTalk*, send an e-mail to *listserv@listserv.vt.edu* and type subscribe safetalk in the body of the note (not on the subject line). Other copies of *SafeTalk* may be viewed on line at *http://www.ehss.vt.edu/Resources/SafeTalk/safetalk.htm*. For more information, contact Charlotte Waggoner at *ren@vt.edu* or 1-5864.

University issues winter-weather traffic advisory

Virginia Tech is now entering the time of year when snow and icy roads may become an issue. Faculty and staff members and students are advised of the following snow-and-ice emergency traffic procedures:

The following roadways are designated Snow Emergency Routes that must remain clear and open for emergency vehicle use. This designation goes into effect when road conditions deteriorate to the point where road travel is difficult, such as when the road is significantly iced or approximately four inches of snow has fallen. When these conditions exist all parallel-parked vehicles must be removed from the following three roadways or be towed at owner's expense: Washington Street between Kent Street and Duck Pond Drive, Kent Street between Washington Street and Drillfield Drive, and South Drillfield Drive between Kent Street and West Campus Drive

Angled parking on the in-bound side of South Drillfield Drive is allowed and cars need not be removed. Additionally, vehicles should not be abandoned in a normal lane of traffic when road conditions become difficult. Abandoned vehicles in roadways will be towed.

When snow-and-ice emergency traffic procedures go into effect, employees and students will be notified by e-mail of the implementation and the status of the university. The Inclement Weather Hotline can be used outside of normal business hours at 1-6668. For more information, call Parking Services at 1-3200 or Virginia Tech Police Department at 1-6411.

Professor leads effort to bring rural and urban people together

By Stewart MacInnis

The diverging attitudes of urban and rural residents concerning how each fits into the national way of life trouble Diane Relf.

"We need to actively pursue connections between urban and rural people, because that will increase understanding," Relf said. "The fact is, this isn't an us-them issue."

A professor of horticulture, Relf joined with colleagues from around the country in authoring *Urban and Agricultural Communities: Opportunities for Common Ground.* The Council for Agricultural Science and Technology, or CAST, released the report earlier this year.

Strange as some people may find it, Relf said a unifying, though largely unrecognized, factor in American society is agriculture. What the report documents is something that many associated with agriculture understand intuitively.

"Agricultural science impacts people's daily life in the immediate urban environment," Relf said. "Agriculture is not only about food and fiber, as important as they are. It's also about such things as the green industry's role in urban revitalization, economic benefits to cities, and even reducing crime in cities. Rooftop greenery helps with heat control, it provides runoff benefits, and it cleans the air. There are numerous areas where there are beneficial impacts."

In addition to food, fiber, ornamental plants and forestry production, the report defines agriculture as including major components that range from food-safety technologies to natural-resource programs and to the people and organizations involved in agricultural policy, public education, and related agricultural service industries.

The report provides an extensive discussion of the ways that agriculture already contributes to urban communities, such as storm-water management, air quality, and economic benefits, as well as community and human-health and recreational opportunities. It also proposes initiatives that the agricultural system, higher-education programs and governments must undertake jointly to remain relevant to society. Research, Extension and educational opportunities are addressed for each initiative described in the report.

"The green industry is a major sector of agriculture," Relf said of agricultural operations concerned with landscapes, plant nurseries, gardening and lawn care. "It's the fastest-growing sector of agriculture. And it's centered largely in urban areas."

In addition to the direct economic benefit of agricultural activities, there are synergistic economic benefits for urban and rural areas. Agri-tourism makes regions more appealing for visitors. Niche agricultural products and farmers' markets tie rural and urban areas together.

Relf, who specializes in horticultural therapy, sees a great opportunity for rural areas and the urban-centered segment of agriculture to add to the health and well being of city residents.

"Just the presence of plants can confer benefits in terms of health," she said. "With an aging population, there is a definite role for horticulture for such things as providing healing landscapes at healthcare facilities. Horticulture is also important for interior landscapes, plants inside buildings that help clean the building's air, and for the effect landscapes have on worker productivity."

The full text of the report is available at the CAST web site at *www.cast-science.org* along with many of CAST's other scientific publications.

WILDLIFE

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opossums. We have pictures of them taking pictures of each other or taking the wires out of the cameras," Kelly said. "It could be worse," Kelly said with a laugh. "Elephants tend to step on the cameras and squash them in the African research."

Jaguars are an endangered species, restricted in range by over 50 percent due to habitat destruction and loss and illegal hunting. Kelly's findings estimate there are at least eight jaguars per 100 square miles. "In conservation terms, the Chiquibul Forest Reserve is a healthy rainforest," Kelly said. "There are a lot of animals living in the rainforest. Jaguars have a large home range. By protecting their home range and habitat requirements, we are protecting all of the other species that live within the jaguar's home range." This is called the "Umbrella Species Concept," and will likely lead to

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CAMPUS UPDATE

Faculty group shares science, technology, engineering, mathematics knowledge

By Beth Bottom

The Virginia Tech Science, Technology, Engineering and Mathematics (*VT-STEM*) outreach initiative is a newly formed interdisciplinary partnership at the university. *VT-STEM* brings together faculty members from multiple disciplines to share their research and experience with the K-12 community. The goal is to enhance K-12 education in science, technology, engineering and mathematics by providing students quality, innovative learning experiences. Faculty members from six colleges and several university centers are currently active participants with the effort.

Provost Mark McNamee initiated *VT-STEM* last winter in response to discussions with school superintendents from across the state. "Local school districts are experiencing shortages of teachers in the disciplines that are Virginia Tech's strengths. We are uniquely positioned to respond to these needs and committed to working in partnership with the school superintendents to develop a comprehensive program that increases our production of teachers in these disciplines as well as provides sustained professional development of those already in the classroom," McNamee said.

The collaborative partnership is led by Jerry Niles, interim dean, Human Resources and Education, Joy Colbert, director of the Institute for Connecting Science Research to the Classroom, Susan Eriksson, associate dean, Arts and Sciences, and John Dooley, associate provost, University Outreach.

Recent *VT-STEM* outreach efforts include a presentation to the fall meeting of the Virginia Superintendents' Advisory Board on October 25, and a resource showcase at the annual Superintendents' Brunch before the Temple football game on October 26.

VT-STEM has also recently partnered with the departments of geological sciences, chemistry, mathematics, and biology, among others, and the Center for Excellence in Undergraduate Teaching, to create an on-going education seminar series. The featured speakers are experts in their disciplines and have conducted extensive peer-reviewed science-education research, particularly at the undergraduate level. Students, faculty and staff members are invited to attend any or all of the series, which will be announced in the *Spectrum* calendar.

VT-STEM partners continue to plan outreach efforts such as these to help the university contribute to K-12 educational excellence. For more information, go to *www.k12stem.vt.edu.*

Tech ranked third in the number of theses completed

In a recent issue of the *Family and Consumer Sciences Research Journal*, an article summarized the 451 titles of theses and dissertations completed in 2001 in family-and-consumer-sciences programs in US colleges and universities.

Virginia Tech ranked number three in the number of theses completed (25), ranked number one in the number of dissertations completed (22) and ranked number three in the total number of theses and dissertations completed.

CORRECTION

In the article "Tech to host foreign Fulbright scholar" published November 15, Andrejs Krasnikovs' surname was misspelled. He is from Latvia, and is here for six months, beginning in July, 2002. *Spectrum* regrets any confusion these errors may have caused.

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protection of bio-diversity as a whole. Species are all interconnected. If one animal is disturbed, then all of the animals are disturbed either directly or indirectly.

Kelly said the work is very labor intensive with field work each day including extensive hiking and hacking through the jungle in search of rewarding photographs. She said "the best unarmed self-defense against a jaguar is to pump yourself up and make yourself look really big. Make lots of noise and don't run. Stand your ground. Although Kelly has only seen a jaguar once, she has seen a few 600-pound tapirs and heard several stories of wild pigs (peccaries) chasing humans up into trees for hours on end.

Other research efforts taking place at Belize's Las Cuevas Field Station include the endangered ocelot, a smaller spotted cat; bats, hawkmoths, the Xate plant, and leaf miners. Funding and support for these research projects come from Virginia Tech, the Wildlife Conservation Society, the National History Museum in London, the National Science Foundation, and the McBean Family Foundation.

Other research efforts conducted by Kelly involve using a highly specialized computer program to assist in matching thousands of photographs of cheetahs from the past 25 years to construct the life histories of Serengeti cheetahs and the reproductive careers of female cheetahs. Additionally she has conducted a survey of the small mammal diversity and abundance in the Chiquibul Forest.

Recently, Kelly spoke to the San Francisco Exploratorium using satellite technology to conduct a series of live webcasts from the remote field site in Las Cuevas, Belize. The studio audience and anyone watching the webcast was able to ask questions over the Internet about her project with jaguars. The live interview is available as an archive at web site *http://www.exploratorium.edu/origins/belize-london/live/index.html.*

Fox creates way to measure ecosystem health

By Sarah Kayser, University Relations intern

A new environmental study opens up the way for the nation to be able to judge the health of its ecosystems. Thomas Fox, associate forestry professor in the College of Natural Resources, served on the forest working group which authored the chapter on forest ecosystems and which reviewed the full report.

"*The State of the Nation's Ecosystems* identifies what should be measured, counted, and reported so that decision makers and the public can understand the changes that are occurring on the American landscape, set priorities for action, and see whether we are achieving our environmental goals," Fox said. The report identifies major gaps in what is known about the nation's lands, waters, and living resources, and proposes periodic reporting of key indicators that will inform and influence policy decisions for generations to come.

The H. John Heinz III Center for Science, Economics, and the Environment completed the report after spending four years examining the current state of America's natural resources. "The report is intended to serve as a way of judging the health of the ecosystems in the United States in the same manner that leading economic indicators such as the GDP and unemployment index are used to judge the health of the economy," Fox said.

An unprecedented collaboration of 150 government, business, academic, and environmental leaders produced the study that designed indicators to measure and report on the condition and use of the country's natural resources. The report provides indicators for the nation as a whole and for its coasts, oceans, forests, farmlands, fresh waters, grasslands, and shrublands, as well as for urban and suburban areas. For each of these systems, the study describes its current conditions and trends, as

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WOOD-SCIENCE

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Taiwan, where he presented a basic overview of Virginia Tech's academic structure as well as made suggestions to NCHU how it might organize its university. Kamke highlighted some of Virginia Tech's wood-science research programs in hopes of developing an international collaboration between the two schools. Marshall Shiau, who earned his Ph.D. from Virginia Tech's wood-science department, translated the presentation for over 50 students and faculty members.

With 52 students enrolled in the wood-science program at Virginia Tech and 40 students enrolled at the NCHU, Kamke found the Taiwan program to be quite similar to Virginia Tech's. "NCHU has a similar student body and organizational structure as Virginia Tech, same classes, a research focus, and a major natural-resources program, with one exception," Kamke said. "Their experimental forest is much bigger than ours. It is set up to handle tourism including lodging and accommodations within the forest. They even grow and sell coffee from their coffee-tree plantation."

Kamke directs Virginia Tech's Sustainable Engineered Materials Institute. The institute is comprised of a group of faculty and staff members, and students focused on developing alternative forest-management practices consistent with the future demand for wood products. The institute also develops new wood-based composite products for industries and government organizations in Virginia, the nation, and the world.

EMPLOYMENT

The following classified positions are currently available. Position details, specific application procedures/position-closing dates may be found on Personnel Services web site *http://www.ps.vt.edu.* Positions are also listed on the Job Line, a 24-hour recorded message service. For information on all job listings, call 1-5300. Some positions include state benefits. Positions with numbers beginning with "W" are hourly and do not include state benefits. Individuals with disabilities desiring assistance or accommodation in the application process should call by the application deadline. Closing date for advertised positions is 1 p.m. Monday. An EO/AA employer committed to diversity.

CLASSIFIED POSITIONS

FULL TIME

Assistant to Center Director, 002731J, PB 3, CASS.

Customer Service Assistant, 008047S, PB 2, Parking Services.

Fiscal Assistant, 000523F, PB 2, Controller's Office.

Fiscal Technician Senior, 004047B, PB 3, Chemical Engineering.

Human Resource Coordinator, 008044S, PB 4, University Development.

HVAC Technician, 008001H, PB 3, RDP.

Lab Technician, 008042K, PB 4, VBI.

Laboratory Specialist, 007474M, PB 3, Biochemistry.

Pre-prep Supervisor, 000394H, PB 2, RDP.

Sales/Catering Assistant/Receptionist, 007294G, PB 2, DBHCC.

Unit Manager, 007961H, PB 5, RDP.

PART TIME

Distance Learning Support Technician, W023494A, PB 4, VBS.

ICU Veterinary Technologist Large Animal, W022218M, PB 2, VTH.

Large Animal Husbandry, W022155M, PB 1, VTH.

Postal Assistant/Mail Sorter, W020720A, PB 2, UMS.

Research Specialist, 008012M, PB 3, Entomology.

OFF CAMPUS

Laboratory Specialist, 007687B, PB 3, Occoquan Laboratory.

Nursing Supervisor, 006726M, PB 3, CVM.

Program Support Technician, 007912G, PB 3, NVC.

IN OTHER NEWS

CVC Winner

ADLER

Lynn S. Adler from the biology department won a check-up for one of her pets from the Virginia Maryland Regional College of Veterinary Medicine in the Commonwealth of Virginia Campaign drawing held November 19.

Prizes for the December 10 drawing include basketball game tickets, lunch for two at Donaldson Brown, and a one-semester parking permit. For pledge cards, contact Terri Tishman at 1-6727 or *ttishman@vt.edu.*

DARWIN

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the National Science Foundation, the National Endowment for the Humanities, and the Andrew W. Mellon Foundation.

In addition to his work with the correspondence project, Porter is co-editor, with Peter Graham, professor of English at Virginia Tech, of the book *The Portable Darwin*.

Medical industry adopts HACCP as model of quality assurance

By Angela I. Correa

Five years ago, the U.S. medical-device industry set an important goal. Their products were already the most reliable in the world, but they wanted to take the extra steps necessary to implement a risk-analysis and risk-management tool that would further increase the safety of their products. Their goal was not only to find a regulatory paradigm that would increase accountability but also to reduce waste, curtail the production of defective or substandard devices or products, and implement an efficient and effective quality-assurance program at each manufacturing facility. The challenge was anything but simple, and industry leaders began to canvass recent regulatory history for programs that had handled similar challenges with a great deal of success.

Their search led them to the Seafood HACCP (Hazard Analysis and Critical Control Points) Alliance, and George Flick, a member of Virginia Tech's CFAST (Commercial Fish and Shellfish Technology) program. Flick has been an integral participant in the highly lauded efforts of the Seafood HACCP Alliance, which was responsible for promulgating compliance with the HACCP regulations imposed on the seafood industry a decade ago.

Flick, a university distinguished professor of food science and technology was initially surprised by the request to provide guidance for the medical industry, because the field seemed so divergent from his own expertise as a chemist and food technologist. However, both HACCP programs had the ultimate goal of safeguarding human health by producing safe products. Flick agreed to assist the medical-industry delegates in creating their own HACCP training curriculum and organization to administer the program.

The Medical HACCP Alliance is now chartered as a public-interest organization and Flick is serving as chairman.

Because of the success of the Medical HACCP Alliance in meeting a critical need of the industry, representatives of the medical-device industry and other producers of health-care products requested Virginia Tech's CFAST program to assume leadership in developing an international conference on risk management. The 2002 conference was held in California, and was co-sponsored by several international health-care-product manufacturers. The success of that program has resulted in a request to the Alliance to consider offering another national and several regional Risk Analysis and Risk Management programs for AAMI (the Association for the Advancement of Medical Instrumentation) during 2003.

The HACCP concept involves studying the processes involved in making a product, determining the points within that project where product-safety hazards are likely to be introduced, and developing a plan to prevent those hazards from having any effect on product quality. It is a preventive method, and is highly efficient when it is intelligently applied.

The Medical HACCP Alliance, with Flick's guidance, has now produced a complete curriculum for HACCP implementation. This curriculum includes manuals, courses to prepare HACCP instructors, HACCP courses for industry personnel, and a range of support services, including teaching aids, and a web site, for companies developing their HACCP plans.

A total of 48 courses have been taught, reaching a total of 1,224 managers and executives within the healthcare products industries. The program, which originally focused on medical devices, has now been expanded to include chemotherapeutics, blood, and tissues.

The Blood Bank of Canada has announced that it will use the Medical HACCP program developed by the Medical HACCP Alliance to certify the safety of the blood and blood products it produces and distributes within Canadian borders.

FOX

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well as reports on 10 key characteristics of ecosystems that should be tracked over time.

The report seeks to answer key questions about the condition of ecosystems in the United States, such as how much area does an ecosystem or land-cover type occupy; how much nitrogen, phosphorus, oxygen, and carbon are found in different ecosystems; and how is the quality of key ecosystem products (food, fiber, and water) changing over time.

Funding for the report was provided by nine federal agencies and 13 corporations and foundations, which were commissioned by the White House Office of Science and Technology Policy. The report calls for annual updates and a revised edition every five years. *The State of the Nation's Ecosystems* report is available, in full text, at no charge, at *www.heinzctr.org/ecosytems*.

NEWSMAKERS

Richmond Times Dispatch (July 2002); **Richard Neves**, professor of fisheries and wildlife, is featured for his research with mussels in the article "Building Mussels."
Richmond Times Dispatch (July 2002); **Neves** is quoted in an article about a suspected "liquidy asphalt" vandalism spill.

Blue Ridge Country (Aug. 2002); **Michael Vaughan**, professor of wildlife sciences, is featured for his black-bear research and world-renowned program in the article "Living with Black Bears in the Blue Ridge."
Science News (April 20); **Vaughan** is noted for his black bear fur sampling research in the feature article "Wild Hair, The Suddenly Famous Science of Fur Snagging."
People (Aug. 22); **Vaughan** is quoted in an article entitled "Bear Necessities."

New York Times (May 2002); **Jim Berkson**, assistant professor of fisheries and wildlife, is quoted for his work with horseshoe crabs in the article "Decrease in Crabs Raises Concerns."

Science News (June 26); **Richard Helm**, assistant professor of forestry, counsels caution to the use of catechin as a weed killer in the article "Weed chemical a possible weed killer."

The Virginia- Pilot (Apr. 2002); **Jeff Kirwan**, associate professor of forestry, is quoted in a featured article about champion trees.

Nelson County Times (Feb. 7); **Dana Raines**, youth coordinator in natural-resource education, was highlighted for his riparian-restoration project. He was funded a grant so that the ecology classes at Nelson County High School could plant trees along two acres of floodplain.

CFAST (Mar. 2002); "**Todd Wenzel** begins work at Southwest Virginia Aquaculture Center in Saltville" is a featured article.

Kingsport Times News (July 2002); An article discusses how the U.S. Forest Service used a model of risk-management assessment for steep-terrain harvesting devised by **Rien Visser**, assistant professor of forestry, to create the recent timber sale plan.

Virginia Forests (Winter 2002 edition); **James Johnson**, associate dean of outreach, **Harry Haney**, Garland Gray Professor of Forestry and Extension specialist, and **Daniel Goerlich**, associate Extension agent in forestry, were noted for their Cooperative Extension regional awards of excellence.
Virginia Forests (Fall 2001 edition); **Haney** published a question-and-answer article about tax issues that affect tree farms.

Blue Ridge Business Journal (August 26); 2002 **Richard Wokutch**, R.B. Pamplin professor of management, was quoted in the cover story on corporate accountability and business ethics.

New York Times (July 19); A study co-authored by **Barbara Remmers**, assistant professor of finance, was cited in a column by Floyd Norris, "How Pitt Could Make Fraud Less Tempting."

BizEd, (July/August issue); **Norrine Bailey Spencer**, associate dean for undergraduate programs, Pamplin College of Business, was featured in a special section on women in management education in the magazine published by the AACSB-International, the Association to Advance Collegiate Schools of Business.

Metro News Source (June 28); **Don Chance**, First Union professor of financial risk management, was interviewed about World Com's problems. Chance was quoted in a story on the stock market's see-saw in an August 8 story, "Which way will it head?" in the *Free Lance-Star* (Fredericksburg).

Milwaukee Journal Sentinel (July 27); **Chris Neck**, associate professor of management, was quoted in a story on business executives and fitness in a story "Iron CEO's."

KMOX Radio (St. Louis*)* (September 16); Large Animal Clinical Sciences Research Associate Professor **Will Eyestone** discussed the products of animal biotechnology in the marketplace. Eyestone served on the National Research Council's Sub-Committee on Defining Science-Based Concerns Associated with the Products of Animal Biotechnology.

Americans (October 2002 edition); **Marcella Kelly**, assistant wildlife professor, was featured for her jaguar studies. Some of her photos taken by surveillance cameras are included.
The Reporter (August, 4, 2002); **Kelly** was quoted on the front page of the Belize national newspaper for her conservation studies in the Chiquibul Forest Reserve, where illegal settlements of Guatemalan peasants are impairing the habitat for jaguars and other wildlife.

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