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Natural Resources dean to head two colleges

By Clara B. Cox

N. Gregory Brown, dean of the College of Natural Resources since 1992, has been named interim dean of the university's College of Agriculture and Life Sciences until a replacement can be found for L.A. "Andy" Swiger, who is retiring January 1.

Brown will continue to serve as the dean of the College of Natural Resources. The college will see an additional change as it acquires a department from another college.

"Greg is a highly respected, talented, and energetic individual whose substantial administrative experience will be a major asset during the transition period. Since his college is the most closely aligned with Agriculture and Life Sciences, I feel that he is sensitive to the needs of both colleges and will be able to lead Agriculture and Life

Sciences successfully until we have a new dean in place, probably during the summer" said Mark McNamee, vice president for academic affairs and provost, who made the appointment. The search for a new dean for the college began in September.

During Brown's 10 years at the helm of Natural Resources, he has also served as associate director of the Virginia Agricultural Experiment Station, and for a period in 1995, he assumed the role of interim provost for the university. Under his leadership, Natural Resources secured private donations to construct an addition to Cheatham Hall, which houses the college. The addition will be dedicated in March.

"I am pleased to accept the opportunity to serve as interim dean for the College of Agriculture and Life Sciences while the college completes its search for a new dean," Brown

said. My administrative experience at Virginia Tech and two other land-grant universities has provided me the opportunity to work closely with agricultural disciplines, including agricultural experiment stations and Cooperative Extension programs. I am confident that the administration, faculty, and staff in both the College of Agriculture and Life Sciences and the College of Natural Resources will provide the support and counsel required to guide us through this period of time. While working together across many programs, the two colleges will maintain their autonomy."

A forest physiology educator, Brown has written numerous articles for professional journals, was the editor for the *International Directory of Woody Plant Physiologists*, has served on many national natural-resource boards, (See *NATURAL* on 2)

Internal search initiated for new dean

By Clara B. Cox

The university has initiated an internal search to find a dean for its new College of Science, which will be established at the end of the current academic year as part of the restructuring of the College of Arts and Sciences. Current plans call for the departments of biology, chemistry, computer science, economics, geological sciences, mathematics, physics, psychology, and statistics to form the new college.

"The challenges of creating a new college in constrained budget times are formidable, but the opportunities to expand upon a solid foundation for future growth and distinction are exciting. I am convinced that we have talented individuals within our current faculty and administration who are superbly qualified to provide leadership during this unique transition period," said Mark McNamee, university provost and vice president for academic affairs. McNamee has appointed a search committee to seek and review applications for the position.

The successful candidate, who will receive a regular appointment for up to three years, will help establish the new college, define its vision, enhance the quality and diversity of employees and students, create an administrative infrastructure, lead the college's participation in the university's capital campaign, create a climate that encourages all members of the college community to contribute to college and university goals, serve as a member of the university's leadership team, develop internal and external relationships that will promote the college's programs, and provide (See *INTERNAL* on 2)



AKERS

Akers appointed director at NVC

By Julie Kane

Karen E. Akers has been appointed director of Virginia Tech's Northern Virginia Center (NVC) in Falls Church for a two-year term ending July 1, 2004. At that point, Virginia Tech's presence in Northern Virginia as a whole will be considered.

Previously, Akers served as interim administrator of the center since November 2001, which was several months after NVC Director Richard Worrell died.

Regarding NVC, Akers said, "I think there are incredible opportunities for NVC to work with other Virginia Tech sites in this region. I look forward to working with Karen DePauw, Jim Bohland, the executive committees and others to redefine the center so we can serve Northern Virginia and our university as well as we possibly can."

Akers has also been appointed to three (See *AKERS* on 2)

Board of Visitors Meets, Issues Statement

(Editor's note: The following statement on the December 15 Board of Visitors meeting was issued by the board and university President Charles Steger.)

The Virginia Tech Board of Visitors convened in special session on December 15 to address guidance from the Office of the Attorney General and to endorse the creation of a commission of University Council.

The university Board of Visitors received guidance in April of this year from the Office of the Attorney General concerning the state's and university's legal obligations subsequent to the accord between the Commonwealth of Virginia and the federal government's Office for Civil Rights within the Department of Education.

Included in this directive of April 22, 2002 (William H. Hurd to Presidents and Counsel of Virginia's Public Colleges and Universities; The Chancellor, Board and Counsel of the Virginia Community College System; and The Director and members of the State Council of Higher Education for Virginia) Hurd states "it is critical that each Virginia institution of higher education assure itself that it is not administering any program that is legally indefensible."

Later this year, during the annual SCHEV-sponsored conference for members of boards of visitors, the Office of the Attorney General was asked for further guidance on individual liabilities should institutions be subject to litigation resulting from race-conscious programs. Some board members from throughout the state questioned their personal liability if their institutions continued to implement programs for specific constituencies no longer permissible under current legal rulings. The Office of the Attorney General has provided that guidance to (See *BOARD* on 4)

Animal pain receiving more human attention

By Jeffrey S. Douglas

Pain. Whether it's the low-grade agony of arthritis, an accidental burn from a hot kitchen stove, or just a throbbing headache from too much screen time, we all know it and seek to avoid it.

Pain is clinically defined as "an unpleasant sensory and emotional experience with actual or potential tissue damage."

Thirty million Americans suffer from chronic pain, and experts estimate it costs us more than \$100 billion a year in lost productivity. The U.S. Congress has declared this the decade of pain research.

Physicians now evaluate and measure human pain along with pulse, temperature, blood pressure and respiration as a fifth vital sign in assessing health and patient condition. We are asked "where it hurts" and urged to describe its "sharpness" or its "dullness" and its "frequency" before receiving medication. (See *ANIMAL* on 4)



Small-animal surgeon Spencer Johnston (right) evaluates clinical trial data in the Virginia-Maryland Regional College of Veterinary Medicine's Force Plate Laboratory while a laboratory technician guides a dog through a trial. The laboratory is evaluating the effectiveness of new animal forms of pain-relieving medications.

ACTIVITIES

EVENTS

Friday, 20

Graduate Commencement, 2:30 p.m., Cassell Coliseum.

International Graduation Reception.

Saturday, 21

Fall 2002 Gradesheets Due.

Fall Commencement, 10 a.m., Cassell Coliseum.

Men's Basketball, 2 p.m.: At Western Michigan.

Women's Basketball, 2 p.m.: At Old Dominion.

Tuesday, 24

Christmas Holiday for Faculty and Staff Members.

Fall 2002 Final Grades Available: Web View.

Wednesday, 25

Christmas Holiday for Faculty and Staff Members.

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

Saturday, 28

Women's Basketball, 3 p.m., Cassell Coliseum: UT-Martin.

Sunday, 29

Women's Basketball, 1 and 3 p.m., Cassell Coliseum: Lady Luck Classic.

Monday, 30

Men's Basketball, 7 p.m., Cassell Coliseum: Towson University.

Tuesday, 31

Pay Date for Faculty and Staff Members.

Women's Basketball, 2 p.m., Cassell Coliseum: Radford.

San Francisco Bowl, 10:30 p.m., ESPN2.

Wednesday, 1

New Years Holiday for Faculty and Staff Members.

"With Good Reason," 7:30 p.m., WVTF: "Lewis and Clark and Native Americans," by Dan Thorpe.

Saturday, 4

Men's Basketball, 4:30 p.m., Cassell Coliseum: Florida State.

Women's Basketball, 7 p.m., Cassell Coliseum: Syracuse.

Tuesday, 7

Women's Basketball, 7:30 p.m.: At Villanova.

Wednesday, 8

Men's Basketball, TBA: At Villanova.
"With Good Reason," 7:30 p.m., WVTF.

Thursday, 12

Women's Basketball, 2 p.m.: At Connecticut.

Monday, 13

Classes Begin.

Tuesday, 14

Men's Basketball, TBA: At Connecticut.

Wednesday, 15

Black History Celebration Begins. (through 2-28).

Women's Basketball, 7 p.m., Cassell Coliseum: Pittsburgh.

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

Thursday, 16

Pay Date for Faculty and Staff Members.

Staff Senate, noon, 1810 Litton Reaves.

Friday, 17

Lee-Jackson Day Holiday for Staff Members.

Last Day to Add.

BULLETIN

Hokie Passport Office moving

The Hokie Passport Office is moving during the semester break from 41 Owens Hall to the new Student Services Building, which is located across from the Cassell Coliseum parking lot on Washington Street. The move should be completed by January 6.

During check-in, the Hokie Passport Office will be open in 100 Student Services Building from 1 to 5 p.m. on Saturday and Sunday, Jan. 11 and 12. A Hokie Passport Account cash-to-card machine is located on the lower level of Owens Hall near the base of the Food Court steps.

INTERNAL

Continued from 1

entrepreneurial leadership for the growth and development of academic, research, and outreach programs in the sciences.

The search committee is looking for candidates who have a doctorate, a distinguished record of scholarly activity in a field appropriate to the college, demonstrated effective communication and interpersonal skills, and the ability to work well in collaborating with many constituencies. The committee also wants candidates who have demonstrated effectiveness in planning, administration, and personnel and fiscal management; experience in recruitment and retention to enhance the quality and diversity of faculty and staff members and students, and successful experience or demonstrated potential in fund-raising and development activities.

A review of candidates' credentials will begin on January 20 and continue until the position is filled. Additional information about the position is available on the provost's web site at www.provost.vt.edu or by contacting Denise Collins, special assistant to the provost and staff assistant to the search committee.

The Search Committee is chaired by Paul Knox, dean of the College of Architecture and Urban Studies. Other members are Robert Bodnar, university distinguished professor, geological sciences; Catherine Eckel, professor of economics; Thomas Ollendick, university distinguished professor, psychology; Christa Thomas, graduate program coordinator, physics; Geoff Vining, department head, statistics; and Brenda Winkel, professor of biology.

Nominations and applications should be sent to Knox in care of the Office of the Provost at campus mail code 0132.

University's Hokie is 'dual-purpose' dog

By Courtney Ware,

University Relations intern

Hokie, a three-year-old male German shepherd, was adopted by the Virginia Tech Police Department last spring.

Hokie and his trainer, Officer Keith Weaver, have completed a 12-week basic-training school and are now certified in obedience, narcotics detection, and apprehension. Hokie is classified as a "dual-purpose" dog, because he can both detect narcotics and track and apprehend suspects. Hokie has helped to bridge the gap between the police department and the students at Virginia Tech.

"Students seem to approach me quicker because I have a dog," Weaver said.

Once or twice a week, Weaver and Hokie participate in dorm programs that showcase a little of what Hokie can do, explain how the department uses the dog, and allow for a

question-and-answer session that further helps the students to understand Hokie's position in the department.

Weaver said, "Hokie is a great deterrent. Students are more likely to keep narcotics out of their rooms if they know we have a narcotics dog."

Schools in the area are using Hokie's many talents as well. Recently, Hokie, along with several narcotics dog from surrounding jurisdictions, searched several schools in the area for narcotics.

Weaver went through an application-and-interview process to determine if he was the right officer to partner with Hokie. Hokie lives with Weaver on his farm, and gets along well with all of his other animals.

Weaver and Hokie usually work during the evening because that is when Hokie is used the most. On a typical day, Weaver and Hokie begin their shift with roll call and are then assigned an

area on campus to patrol. In the early part of their shift, Weaver and Hokie are on foot patrol.

All Virginia Tech police officers have adopted halls that they are to patrol. Although Weaver's adopted halls are Pritchard and West Ambler Johnston, he and Hokie usually make rounds to most of the halls on campus. As they walk through the dorms, students approach Hokie either with questions or just simply because they are animal lovers. On slow nights, Weaver will hold a training session for Hokie to increase his tracking and narcotics-detection skills.

Hokie has been a valuable addition to the police department, not only in bridging the gap between students and police officers and in narcotics detection, but also in making the job a little more fun and interesting.

Weaver said, "I have the best job in the department. Hokie is an awesome partner."

NATURAL

Continued from 1

and currently sits on the editorial board for *Renewable Resources Journal*. Earlier this year, he was named to the Science Board for the National Foundation for Environmental Education.

Educated at Iowa State, Yale, and Duke, Brown earned a doctor of forestry degree before working as a plant physiologist at Oak Ridge National Laboratory. He has taught at several universities and has served as director of graduate studies for the School of Forestry at the University of Missouri; department head at the University of Minnesota; and dean, acting vice president for academic affairs, associate director of the Maine Agricultural Experiment Station, vice president for research and public service, and acting president of the University of Maine.

McNamee also announced that the Department of Human Nutrition, Foods, and Exercise will move from the College of Human Sciences and Education to the College of Agriculture and Life Sciences "as a refinement of the restructuring plan developed in the spring. The food, nutrition, and health initiative is emerging as a major campus priority, and our chances of making rapid progress will be enhanced by creating a substantial critical mass within Agriculture and Life Sciences."

AKERS

Continued from 1

of the four committees working toward a more unified Northern Virginia presence: the Coordinating Council, the Services Committee, and the Graduate Education Committee. Her priorities in her new role continue to be stabilizing the administrative core of NVC, and working closely with others involved in shaping the mission of both NVC and Virginia Tech in Northern Virginia.

Karen DePauw, vice provost of graduate studies and dean of the Graduate School, said, "Karen has exceptional interpersonal skills that help achieve a consensus in executive committees and among program directors, deans, professors, and students. Her enthusiasm, knowledge of the center's structure, and financial experience will serve her well in her new role."

According to James Bohland, director of Northern Virginia Operations, "Karen has the opportunity to work with Virginia Tech management and executive committees to streamline our presence in that region. As we look at programs, there will be areas that would benefit from interdisciplinary efforts which could be tailored to suit more graduate students."

CAMPUS UPDATE

Researchers developing new arsenal in war against cancer

By Sally Harris

In the battle against cancer, Virginia Tech researchers have developed a potential warhead to better kill cancer cells, a new missile to deliver the warhead more efficiently to the diseased areas, and a new detonation device once the warhead is in place.

In a cross-disciplinary effort, the researchers, using photodynamic therapy (PDT), have obtained results in three different areas that, used together, have the possibility of providing more efficient, less invasive, and more specific treatments for cancer and other diseases such as age-related macular degeneration.

A long-term concept has held that one should be able to use light-activated compounds to kill diseased cells, said Karen Brewer of the Department of Chemistry. The researchers have

developed new tri-metallic supra-molecules that can be positioned in exact parts of cancer cells and excited by a therapeutic wavelength at which light propagates efficiently through tissue. Only when the light hits the supra-molecules do they become toxic to the cancer cells.

The advantages are many. The non-surgical process avoids the debilitating side effects of normal chemotherapy. The system enables the scientists to place the supra-molecules at specific locations in cells and to deliver light activating the cancer-killing molecules directly at that spot in a strength that does not harm other tissue. "This allows much lower dosages of light to be effective, so we can use agents that are more aggressive and not get the side effects of chemotherapy," Brewer said.

Researchers Shawn Swavey and Alvin Holder, along with students Lee Williams and Nathan Toft, working in the Brewer laboratory, developed the new mixed-metal supra-molecular complexes (medicines) that Brewer and Brenda Winkel of biology have proven are capable of photo-cleaving DNA, a normal therapeutic target in cells. The complexes are novel molecules whose chemistry allows the researchers to

append them to other units.

At present, physicians use a chemical that is exposed to light and activates oxygen in photodynamic therapy. In tumor cells, oxygen is depleted rapidly, so those treatments can run out of oxygen and not kill the entire tumor, which can return. Brewer's new systems don't need oxygen, and the researchers can change the wavelength of light used. "We can fine tune the compound for light-absorbing characteristics," Brewer said. "By using a lower energy, we can better penetrate the body."

Brian Storrie and research scientist Maria Teresa Tarrago-Trani of biochemistry have developed the "rocket" with which to deliver the cancer-killing agents to particular organelles, or parts, in the cancer cells. "We have used a polypeptide that binds to a cell-surface receptor, and that molecule is over-expressed for certain cancers. We can deliver photosensitizers to the cancer," Storrie said.

The delivery vehicle is a B-fragment of a class of toxins known as shiga toxins. The A fragment is toxic, but the B fragment is a non-toxic delivery system. Storrie developed a way to use the B fragment to deliver the photo-

dynamic agents developed by Brewer into the cells. This enables the researchers to target certain kinds of cancer cells that have receptors for the B fragment and deliver the agent to the exact spot in the cell so the supra-molecule can attack that part. This allows for the destruction of many parts in the cancerous cells.

Ken Meissner of the Optical Science and Engineering Research Center is developing the "detonation device" for the supra-molecules, which are non-toxic until hit by light. His specialty is the delivery of light to the correct tissues and to the supra-molecules positioned to kill the cells. Meissner develops better ways to get the light to the tumor and to understand how light passes through tissue

Together, the three-part attack opens up huge new areas for fighting cancer. "We can attach the delivery vehicles, change the light we need, change the biological target in the cells, and design a molecule that reacts with that part," Brewer said. In other words, Brewer can develop different molecules for different areas of the cells, Storrie can develop ways to get those molecules to the right places in the cells, and Meissner can develop methods to deliver the light needed to begin the killing of cancer cells. Or, Meissner can develop a new light-delivery system to work in a certain area, and then Brewer can develop a molecule that will kill tumor cells when excited with this light, and Storrie can get the molecule there.

The research is being done within the Photodynamics Mini-center under the Optical Sciences and Engineering Research Center, a joint effort between the Carilion Biomedical Institute and Virginia Tech. Research groups collaborating under the mini-center include researchers Brewer, Storrie, Meissner, and Winkel, and Yannis Besieris and Brad Davis of electrical and computer engineering, Sun Young Kim of biochemistry, and Ed Wojcik of biology.

Spencer receives EACUBO award

Ann Spencer, who retired as Virginia Tech's associate vice president for personnel and administrative services in 1997, was awarded the KPMG Peat Marwick Distinguished Service Award at the October meeting of the Eastern Association of College and University Business Officers (EACUBO) in Philadelphia.

EACUBO was established in 1920 to support the work of the National Association of College and University Business Officers (NACUBO).

Spencer began working at Virginia Tech in Sponsored Programs and later became the assistant to then-Vice President for Finance Minnis Ridenour in 1983. In 1990, she was named associate vice president for personnel and administrative services where she provided leadership to efforts to improve the human-resources function on campus, implemented leadership-development programs and developed staff-appreciation programs. In 1997, the Board of Visitors approved emeritus status for Spencer, recognizing her service to Virginia Tech and the community.

VIRGINIA TECH RECYCLING

By Larry Bechtel,
Virginia Tech Recycling director

Phonebooks and campus directories can be recycled at the recycling station located in the overflow parking lot, immediately west of the Duck Pond. The collection bin for these books and directories has been clearly labeled; do not use the bin for other books or papers. In keeping with the extended deadline provided by the recycling center, the bin will remain in place until the end of January.

To reach the overflow lot, take Washington Street west until it ends at the cage (student

parking lot). Take a right down the hill on Duck Pond Drive. Pass Smithfield Road on the left, and then as Duck Pond Drive begins to veer to the right around the Duck Pond, take a left on Oak Lane. Turn into the overflow lot from Oak Lane. Drive to the southwest corner of the lot and look for a big bin for paper (sorted office paper/newspaper, glossy magazines and catalogs), and smaller bins for corrugated cardboard, phonebooks and campus directories, and commingled containers.

For more information, contact the Virginia Tech Recycling Office at 1-9915.

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

Four full-time food-service positions available.
Animal Care Supervisor, 006998M, PB 4, VTH.
Electrician Senior, 002219F, PB 3, Power Plant.
Housekeeping Supervisor, 000609H, PB 2, RDP.
HVAC Technician, 008001H, PB 3, RDP.
Lab Specialist Senior, 007743M, PB 4,

PPWS.
Lab Technician, 008042K, PB 4, VBI.
Laboratory Specialist, 007474M, PB 3, Biochemistry.
Pre-prep Supervisor, 000394H, PB 2, RDP.
Service Leader/Cashier, 000772H, PB 1, RDP.
Small Animal Icu Technician, 002873M, PB 4, VTH.
Unit Manager, 007961H, PB 5, RDP.
Web Documentation Specialist, 007664A, PB 3, CNS.

PART TIME

Animal Care Technician, W023031M, PB 2, CVM.
Css/Surgery Technician, W022190M, PB 2, VTH.
ICU Veterinary Technologist Large Animal, W022218M, PB 2, VTH.
Insect Rearing Technician, W023506M, PB 2, Entomology.
Laboratory Technician Senior, W022172M, PB 2, VTH.
Large Animal Husbandry, W022155M, PB 1, VTH.
Pharmacy Assistant, W020839M, PB 2, Veterinary Teaching Hospital.
Secretary, W022146M, PB 2, UVAS.
Storekeeper, W022291M, PB 2, VTH.
UNIVERSITY ONLY
Assignments Specialist, U006859H, PB 3, RDP.

OFF CAMPUS

Laboratory Specialist, 007687B, PB 3, Occoquan Laboratory.
Nursing Supervisor, 006726M, PB 3, CVM.
Research Specialist, 004529M, PB 3, Tidewater AREC.

FACULTY POSITIONS

NON-INSTRUCTIONAL

GA067 Director of Development, Smith Mountain Lake 4-H Educational Conference Center. Contact: Rhonda K. Arsenault, University Development, 201 Pack Building, 0336.
112630 Extension Agent, 4-H Youth Development, City of Virginia Beach. College of Agriculture/Life Sciences. Contact: Robert Ray Meadows, Virginia Cooperative Extension, 121 Hutcheson Hall, 0437.

112630 Extension Agent, ANR, Animal Science, Wythe County. College of Agriculture/Life Sciences. Contact: Steve Umberger, Virginia Cooperative Extension, 121 Hutcheson Hall, 0437.

INSTRUCTIONAL

1572 Assistant/Associate Professor—Costume Designer. Department of Theatre Arts. Contact: Randy Ward, Virginia Tech Theatre Arts, 203 PAB, 0141.



VIRGINIA POLYTECHNIC INSTITUTE
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Editor
John Ashby, 1-6961

News Bureau Manager
Sherri Box, 1-8508

Production Manager
Melinda Shaver, 1-8524

Business Manager
Paula Vaught, 1-8819

Web/Editorial Assistant
Sherri Songer, 1-2522

Letters to the editor and questions for "Ask *Spectrum*" should be addressed to the editor, 102 Media Building, Virginia Tech, Blacksburg, VA 24061.

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Locomotion researcher examines reasons why elderly fall

By Liz Crumbley

Falls are the leading cause of accidental deaths among people over the age of 75 and the second-leading cause for those aged 45 to 75, according to the National Safety Council. Although the consequences of falling are well known, the relationship between aging and falling is still a mystery.

Working in his Locomotion Research Laboratory, Thurmon Lockhart is determined to solve this mystery. "Fifty percent of people over 75 will either die or be forced to enter institutional care because of falls," he said. "What I want to find out is why these falls happen."

Lockhart, an assistant professor of industrial and systems engineering with a research background in biomechanics and human motor control, also wants to learn how to help prevent falls.

"About one-third of the elderly living at home fall each year and one in 40 of them are hospitalized," he noted. "Of those admitted to the hospital, only about 50 percent will be alive one year later. And the economic projections are that \$20 to \$50 billion will be spent in the U.S. by 2020 on the medical costs resulting from hip fractures alone."

Funded by a grant from the Centers for Disease Control and Prevention (CDC) and the National Institutes of Health (NIH), Lockhart is suiting up young and old volunteers in a harness and a network of sensors that test musculoskeletal and neuromuscular changes and biomechanical responses during slips and recoveries.

As a test subject walks back and forth along an experimental platform in Lockhart's lab, the sensors monitor muscle and joint activities in the feet, ankles, legs, hips and arms. At a randomly chosen moment in the test, a student assistant stealthily pours a slippery solution of liquid detergent and water behind the subject. On the way back, the subject slips and goes through the motions of recovery (an actual fall is prevented by the harness).

All the data from the monitoring sensors is fed into a computer model, providing information to the researchers about the subject's gait while walking and the body motions involved during slipping and recovery. Lockhart and his students are running tests on a group of 60 volunteers divided into three age groups—18 to 35, 40 to 55 and over 65.

There's more to Lockhart's study than investigating the mechanics of walking, slipping and recovering, however. "Another important factor is understanding the intrinsic changes to gait and balance brought about by aging," he said. For example, as people age their walking gait tends to change. "We may take slower and shorter steps, making a higher velocity contact impact with our heels—which in turn seems to make slipping more likely. Why does this happen?"

Also as we age, Lockhart noted, sensory factors such as vision, inner ear and touch sensitivity decline. "These changes make us less able

to detect that we're slipping until it's too late."

Lockhart's tests also include strength measurements taken while subjects are recovering from slips. Understanding the mechanics of recovery could help the researchers learn how to prevent slips from becoming falls.

In addition to the first three phases of this CDC/NIH-sponsored project—learning the mechanics of slipping and falling; determining the gait, visual and sensory, environmental, strength and perceptual factors behind the mechanics, and modeling the muscle, joint and bone involvement—Lockhart plans a fourth phase.

"I want to develop intervention strategies," said Lockhart, who also is affiliated with Virginia Tech's Center for Gerontology. "For example, after our modeling helps us understand the mechanics of falling, we might be able to develop special shoes, strength-training routines or environmental-and-flooring designs that will help prevent falls among the elderly."

Lockhart and Stefan Duma, an assistant professor of mechanical engineering, already have a provisional patent on a hip pad they created that can reduce impact injuries from falls. Based on air-bag technology, a sensor device triggers deployment of the "HIP-bag" when the wearer takes a fall.

Lockhart and a student researcher are conducting another study of falling among the elderly who live in nursing homes. By investigating the data, the researchers hope to devise a model for predicting the risks of falling for individual residents.

"We need to understand more about the mechanics involved in being older," Lockhart said. "It's important that we not simply accept the folk-lore about aging and injuries if we can learn how to prevent those injuries."

CVC Winner



MELLER

Russ Meller of industrial and systems engineering is the winner of the one-semester parking pass in the Commonwealth of Virginia Campaign (CVC) drawing held December 3.

It's not too late to participate in the CVC. Contact Terri Tishman at 1-6727 or uld@vt.edu for more information and campaign pledge card and materials.



A 67-year-old female subject suited up in harness and monitoring sensors in Thurmon Lockhart's Locomotion Research Laboratory.

ANIMAL

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But that isn't quite the case with animals, of course.

"It takes a little bit more effort to assess pain in animals," said Richard Broadstone, an associate professor and veterinary anesthesiologist in the Virginia-Maryland College of Veterinary Medicine's Department of Small Animal Clinical Sciences. "But we have to recognize that animals do have pain. The pain pathways in animals are similar and the receptors are there."

Because of difficulties associated with assessing pain in animals, a historic lack of effective drugs and medications to treat it, and some economic and regulatory issues, the veterinary profession may not have done as good a job as it could have in dealing with animal pain, according to some experts. But that is changing fast.

Broadstone is part of a 50-member national task force of veterinarians from universities and the Food and Drug Administration that met in 2001 at the University of Tennessee to develop a common syllabus for teaching veterinary students about animal pain.

The 80-page document they produced systematically details procedures for assessing and managing acute and chronic pain in animals.

Evaluating animal pain requires keen observation of changes in animal behavior, as well as detailed discussions with animal owners. Not all animals show pain the same way, Broadstone said. For example, cats, dogs, and horses may all show different changes in posture,

temperament, vocalization and locomotion in response to pain. Similarly, there are variations in the way a wide array of analgesics and other medications are used with each.

The document produced by the group is emerging as a major manifesto for change. "This is a very dynamic thing," said Broadstone, who is board-certified by the American College of Veterinary Anesthesiologists (ACVA). "It's not just a piece of paper."

The movement to more fully address the issue of animal pain has been fully embraced by veterinary specialty colleges that certify advanced practitioners and professional organizations like the American Animal Hospital Association and the American Veterinary Medical Association. Veterinary medicine may adopt profession-wide standards for dealing with animal pain in 2003, Broadstone said.

Charles Short, emeritus professor of anesthesiology and pain management at Cornell University and chair of the University of Tennessee's Center for the Management of Animal Pain, recently spent two days at the college presenting the syllabus and seeking input from VMRCVM faculty members, residents, interns and students.

"The current upswing of interest in the management of animal pain by our profession and animal owners provides an excellent opportunity to expand primary patient care," Short said.

BOARD

Continued from 1

the boards.

Accordingly the Virginia Tech Board of Visitors on December 15 has reaffirmed its desire to "at all times be in compliance with federal and state laws, regulations, rules, and executive orders in regard to recruitment, admission, and support of students, and in the application of its employment practices for faculty and staff."

University President Charles Steger has directed the university's two attorneys and a third attorney from the university's Office for Equal Opportunity to conduct a review of university programs to assure compliance with recent guidance from the attorney general's office. Once this review is completed, the university will also seek assurance from the Commonwealth's Office of the Attorney General that university programs are in compliance with its recent rulings and guidance.

The board also reaffirmed its desire to use the University Council and its associated commissions to create opportunities for broad involvement of all sectors of the university community. As a major land-grant institution, the university attracts varied populations from throughout Virginia, the nation, and from around the world. The board endorsed the establishment a commission to ensure diverse representation and provide advice and guidance on broad multicultural issues of interest to the university community and its varied populations. Details will be presented to the Board of Visitors for approval at a future meeting.