

SPECTRUM



VIRGINIA POLYTECHNIC INSTITUTE AND STATE UNIVERSITY

<http://www.unirel.vt.edu/spectrum/>

VOLUME 24 NUMBER 7 FRIDAY, OCTOBER 12, 2001

TODAY'S EDITION
See pages 2 and 3
for information on
campus activities.

Veterinary College receives record research grant

By Jeffrey S. Douglas

The largest research grant in the 20-year history of the Virginia-Maryland Regional College of Veterinary Medicine has been awarded to a group of researchers working on the development of new instructional technologies that help develop students' analytical reasoning skills.

The United States Department of Education will provide \$1.24 million dollars in funding through their "Learning Anywhere, Anytime Partnership" program to support the continued development and broader application of the researchers' "Problem List Generator" software technology, according to Holly Bender, an associate professor in the college's Department of Biomedical Sciences and leader of the group.

"We're absolutely elated by this support," said Bender, who has been collaborating for five years with researchers in Virginia Tech's Biomedical Informatics Research Group (BIRG) on the development of computer-based interactive teaching tools. "A lot of people have worked very, very

hard to develop this technology to a point where a grant of this stature and magnitude is possible. Words can't capture the sense of excitement we feel about this."

The PLG software technology challenges students to develop deductive reasoning and higher-order thinking skills as they apply fact-based knowledge in making diagnostic assessments. While originally developed to help train veterinary students improve their clinical-pathology abilities, the software can be applied in computer science, marketing, business administration, mathematics, human medicine and other fields where problem-solving is required, Bender said.

"Our college has made a commitment to sharpen its focus on research in every form during the decade ahead," VMRCVM Dean Peter Eyre said. "So landing a grant of this magnitude in such a burgeoning area of inquiry is very energizing for all of us. This is a significant milestone in the history of our college's research program."

Among other objectives, the grant will enable the researchers to establish partnerships with the University of California at Davis School

of Veterinary Medicine, the University of Wisconsin School of Veterinary Medicine and the Ontario Veterinary College at the University of Guelph in Canada. The group will also partner with the American Society of Veterinary Clinical Pathology and the Veterinary Information Network (VIN), the largest on-line veterinary continuing-education company in the world.

The program enables students to work through a problem and simultaneously compare their problem-solving approaches to the way experts think through the problem. The technology actually enables the instructor and the students to "see" what the other is thinking as they work through the process. Improved problem-solving abilities in students are fostered by the immediate feedback they get from comparing their own cognitive approaches to expert approaches, Bender said.

Bender began working on the project to improve the way veterinary students learn how to apply knowledge in a problem-solving environment. While first-year students enrolled in the DVM curriculum spend much of their

(See *VETERINARY* on 3)

VTTI awarded \$3 million for crash study

By Cindy Wilkinson

The Virginia Tech Transportation Institute (VTTI) has been awarded \$3 million over two years by the National Highway Traffic Safety Administration (NHTSA) and the Virginia Department of Transportation to study driver performance and behavior leading up to crashes and near-crashes.

Vehicle crashes kill almost 40,000 and injure over 2,000,000 people each year in the U.S. at a monetary cost of more than \$150 billion. The goal of the research is to provide detailed data on the events leading up to crashes that will allow a better understanding of why crashes occur. To this end, over 100 cars, belonging to private volunteer drivers, will be instrumented with a highly capable and portable data-collection systems. The systems will collect data for about one year and will provide detailed information on all

(See *VTTI* on 3)

Center for Food and Nutrition Policy affiliates with university

By Stewart MacInnis

Virginia Tech is strengthening its ties to Northern Virginia with the affiliation of a nationally respected educational and research center formerly associated with Georgetown University, according to Agriculture Dean Andy Swiger.

The Center for Food and Nutrition Policy, an organization looked to by national policy makers, will remain in Northern Virginia, Swiger said. "This center brings a sharp point to many of Virginia Tech's broad research programs both domestically and internationally," Swiger said. "While the expertise of many of our researchers is sought out by policy makers, the center adds a structured policy dimension to our scientific work."

The center was named a center of

excellence by the United Nation's Food and Agriculture Organization in 1999.

"We felt that an affiliation with a land-grant institution would be a better fit for the center," said Lester Crawford, director of the center. "Being associated with the academic and research units at Virginia Tech will provide a synergy that will greatly enhance the work of the center. Becoming part of Virginia Tech will also involve the center's faculty and students in food-and-nutrition policy at the state level, which will benefit both the center and the state of Virginia."

He cited as an important attraction to Virginia Tech the collaborative relationship among the university's colleges of Agriculture and Life Sciences, Human Resources and Education, Natural Resources, the Virginia-Maryland Regional College of Veterinary Medicine, the Fralin Biotechnology Center, and

the School of Public and International Affairs.

The center became a part of the College of Agriculture and Life Sciences. Its five faculty members will hold faculty appointments in the college's Department of Food Science and Technology. Merle Pierson, professor of food science and technology, facilitated the alliance between the university and the center.

The mission of the center is to advance rational, science-based food-and-nutrition policy. The mechanisms for accomplishing the mission include research, outreach, public service, teaching and communications.

It conducts the Ceres® Forum, seminars and conferences presented globally for corporate executives and senior public-policy makers on issues related to food and nutrition. It also conducts a graduate program that awards master's degrees in public policy.

Swiger said the center's willingness to facilitate the public discussion in sometimes-contentious issues, such as agricultural biotechnology, regulatory policy, and risk analysis, impressed the university.

"Bringing this center into the Virginia Tech community demonstrates our dedication to increase the impact we have on the issues of food and nutrition, and how those issues affect people's health," Swiger said.

Veterinary Medicine Dean Peter Eyre said the center's mission complements scientific research at the university.

"Dr. Crawford is an internationally regarded veterinarian whose work has promoted scientific advancement, fostered sound public policy, and increased public understanding of the important linkages

(See *CENTER* on 4)

Professors receive NSF nanoscale research grants

By Sally Harris

Research proposals by nanoscience researchers Massimiliano Di Ventra of the Department of Physics in the College of Arts and Sciences and a joint effort of Randy Heflin of physics and Kevin Van Cott of chemical engineering in the College of Engineering will receive Nanoscale Exploratory Research (NER) grants from the National Science Foundation (NSF). In particular, they will explore the nanoscale world through computer simulations and a combination of optics, thin-film technology, and analytical biochemistry.

The NER grants were solicited within the National Nanotechnology Initiative last year, with only four grant submissions allowed per university. Di Ventra's, Heflin's

and Van Cott's proposals were among the approximately 40 funded out of 260 submitted nationally. Each will receive \$100,000 in seed money to spur exploratory nanoscience research. At the nanoscale level, (a nanometer is one billionth of a meter, or 10,000 times smaller than the width of a human hair), scientists can possibly develop revolutionary ways of making materials and products that will greatly increase the speed of electrical processes and reduce the power needed to run the devices.

The problem with current silicon-based technology, Di Ventra said, is that, in the coming years, it will reach the physical limits of the number of transistors that can be integrated into a single chip. "The larger the number of transistors in a single chip, the larger our computational capacity," he said. "We need to come up with

alternative solutions. Electron devices made up of molecular wires could solve the problem. Molecules are orders of magnitude smaller than current devices, and therefore we can put more of them into a single chip."

However, before researchers can actually employ molecular wires in electronics, they need to understand their electronic transport properties. Di Ventra, a theoretical physicist, hopes to understand how electrons behave when traveling into regions as small as a few atoms.

Di Ventra does computer simulations of the way electron devices work in transporting current. "The proposal funded by the new NSF grant is related to one problem that is both fundamental and applied," Di Ventra said. When electric current passes through a device, the

(See *PROFESSORS* on 3)

BOV Executive Committee to Meet

By Dave Nutter

The Executive Committee of the Virginia Tech Board of Visitors will meet on Tuesday, Oct. 16, beginning at 10 a.m. in the Jefferson Board Room at the Hotel Roanoke.

The executive committee will receive a status report on research activities, formalize the agreement between Virginia Tech and the Via College of Osteopathic Medicine, and to review other possible university partnerships.

ACTIVITIES

EVENTS

Friday, 12

EHSS Open House, 10 a.m. to 2 p.m., Environmental, Health and Safety Services.

Faculty Workshop, 2 to 3:30 p.m., Fralin auditorium.

International Club, details TBA.

Red Cross Benefit Concert, 8 p.m., Burruss auditorium.

Saturday, 13

Homecoming.

Natural History Museum Program, 7:30 a.m., VMNH.

Sunday, 14

YMCA Hike, 1:30 p.m., YMCA Parking Lot.

Guest Artist Recital, 8 p.m., Squires Recital Salon.

Monday, 15

Faculty Development Workshop, 10 a.m. to noon, 1120 Torgersen.

Faculty Development Workshop, 3 to 5 p.m., 1120 Torgersen.

University Council, 3 p.m., 1045 Pamplin.

Tuesday, 16

BOV Executive Committee Meeting, 10 a.m., Hotel Roanoke.

Faculty Development Workshop, 10 a.m. to noon, 1120 Torgersen.

Faculty Development Workshop, 10 a.m. to noon, 1120 Torgersen.

Family, Work/Life Resources Program, noon to 1 p.m., DBHCC room C.

Faculty Development Workshop, 3 to 5 p.m., 1120 Torgersen.

Candidates Discussion, 7 p.m., 32 Pamplin.

Faculty Senate, 7 p.m., 32 Pamplin.

Wednesday, 17

CommonHealth/Benefits Fair, 9 a.m. to 2 p.m., Squires Commonwealth Ballroom.

Faculty Development Workshop, 10 a.m. to noon, 3060 Torgersen.

Faculty Development Workshop, 12:30 to 1:30 p.m., 3060 Torgersen.

Faculty Development Workshop, 1:30 to 3 p.m., 3060 Torgersen.

Faculty Development Workshop, 2 to 4 p.m., 1120 Torgersen.

Faculty Development Workshop, 3 to 5 p.m., 3060 Torgersen.

CommonHealth Program, 5:30 to 8 p.m., 135 WMH.

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

Guest Artist Recital, 8 p.m., Squires Recital Salon.

Thursday, 18

Leadership Development Program, 9 a.m. to 4 p.m., DBHCC rooms D, E.

Faculty Development Workshop, 10 a.m. to noon, 1140 Torgersen.

Faculty Development Workshop, 10 a.m. to noon, 3060 Torgersen.

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

YMCA Slide Show, noon, Cranwell Center: Doug Martin.

Faculty Development Workshop, 3 to 5 p.m., 3060 Torgersen.

Friday, 19

MAA Meeting, Through 10-20.

IAWA Lecture, 3 p.m., 100 Cowgill: Brinda Somaya, IAWA.

International Club, details TBA.

SEMINARS

Friday, 12

Highlands in Chemistry, 11:15 a.m., 3 Davidson: Alan Esker.

Philosophy, 3 p.m., 225 Major Williams: Talbot Brewer, UVA.

History, 3:30 to 4:30 p.m., 427 Major Williams: Irv Resnick, Tennessee.

Monday, 15

Biochemistry, 4 p.m., 223 Engel: Dawn Brasaemle, Rutgers.

Wednesday, 17

Global History, 12:15 to 1:15 p.m., 427 Major Williams: Daniel Thorp.

Friday, 19

Highlands in Chemistry, 11:15 a.m., 3 Davidson: Eric Toone, Duke.

MCCB, 12:30 p.m., 102 Fralin: Marvin Cassman, NIGMS.

Via CEE, 2:30 p.m., 100 Hancock: Glen Daigger, CH2M Hill.

BULLETINS

IAWA advisor to lecture

Brinda Somaya, Indian architect and International Archive of Women in Architecture (IAWA) advisor will speak on village earthquake rehabilitation, urban architectural issues in India, and architecture by Indian women architects on Friday, Oct. 19, at 3 p.m. in 100 Cowgill.

From October 17-21, Somaya's work will be on public display. The exhibition is entitled Women in Architecture 2000 Plus—Focus South Asia Conference. This work represents an effort to identify women in architecture who have made significant achievements in their respective countries yet are largely unknown.

Seminar on evaluation of instruction offered

The Office of the Provost, CEUT, CIL, and IDDL will present a seminar, "The Evaluation of Instruction," on October 19, from 8:30 a.m. to noon in 150 Squires. Margaret Miller, president emerita, AAHE will present the invited address, "The Scholarship of Teaching and Learning." The seminar will sort through valid and reliable approaches to evaluating instruction, offer practical examples of successful efforts, and highlight university support for the scholarship of teaching.

Frankel to lecture on design

Neil Frankel, known internationally for his achievements in designing interior space, will present a lecture on "The Challenge to Collaborate: The Role of Design in the 21st Century" on Thursday, Oct. 18, from 5:30-6:30 p.m. in Hancock auditorium. The lecture is open to Virginia Tech students and the greater Blacksburg community.

Frankel will address the new role of design and access to

that role through diversity and collaboration.

Frankel was elected to the Interior Design Hall of Fame in 1994. He is nationally recognized for his numerous design awards, keynote, and leadership for design organizations.

Forest-land program scheduled

A two-day educational program to help forest land owners in the Southern Appalachians will be held at the Southwest Virginia Higher Education Center in Abingdon, Oct. 23-24.

Open to the public, the program will address current land-use issues facing the region, including a unique approach to protect forest lands while keeping them under sustainable forest management.

The conference fee is \$125 and includes field-trip transportation, and conference materials. For more information, call Jim Johnson at 1-7976 or e-mail jej@vt.edu. To register, contact 1-5182 or <http://www.conted.vt.edu/forbank.htm>.

The conference is sponsored by Virginia Tech College of Natural Resources, Virginia Department of Forestry, Virginia Cooperative Extension, and Virginia Tech Division of Continuing Education.

Smart Road Tour offered

The Virginia Department of Transportation and the Virginia Tech Transportation Institute will sponsor a Smart Road Tour today from 10 a.m. to 2 p.m. No reservations are required.

From Interstate 81, take exit 118B to Route 460 to Blacksburg. Take Route 460 Business into Blacksburg. Turn right onto Industrial Park Road. From South Main Street, turn left onto Industrial Park Road.

White Ribbon Campaign scheduled

Virginia Tech will hold a White Ribbon Campaign, a 10-year organized effort to encourage men to speak out and stop men's violence against women, on Monday, Oct. 15, through Wednesday, Oct. 17.

Activities will include information booths in Squires and Johnston Student centers, McComas Hall, and Schultz, Owens, Dietrick, and West End Market dining halls from 10 a.m. to 2 p.m. from October 15-17; a tree ceremony at 4 p.m. on the Drillfield on October 15; programs throughout campus on October 16; and a Sexual Assault Summit from 5-7 p.m. on October 17 in Owens Banquet Hall.

The White Ribbon Campaign is sponsored by the Dean of Students Office, the Women's Center, Residential and Dining Programs, Athletics Department, and Greek Life. The Office of the President is sponsoring the tree ceremony.

For more information, contact Jenkins at ajenkins@vt.edu or Christine Dennis at cdennis@vt.edu.

Alpine Adventure Tower offered

A 50-foot Alpine Adventure Tower will be on campus today and tomorrow for homecoming weekend.

The Army ROTC.com College Tour is bringing the tower to campus to allow interested persons to attempt to ascend one of the several difficulty levels, from beginner to advanced, available on the tower. There will be t-shirt giveaways, special events, and opportunities to learn more about the military and the Army ROTC programs.

The tower will be set up on Cochran Field at the intersection of Washington Street and West Campus Drive across from McComas Hall.

For more information, contact Geoff Stewart at 1-4804 or stewartg@vt.edu.

Committee seeks university input for dean search

By Clara B. Cox

The university community will have an opportunity to learn about the search process for a new dean of the Graduate School, provide comments on the process, and suggest names of possible candidates during a series of forums scheduled in late October.

The first forum, to be held Tuesday, Oct. 23 from 5-6 p.m., will connect the university's extended campuses via V-Tel connection to the Search Committee in 123-A Burruss. Sites on

the extended campuses will be room 3 at the Hampton Roads Extended Campus, room 206 at the Virginia Tech Northern Virginia Center, room 108 at the Roanoke Higher Education Center, room 243 at the Southwest Virginia Higher Education Center, and room 108 at the Virginia Tech Richmond Center.

The second forum will target faculty and staff members and students on the Blacksburg campus. It will be held 4:30-5:30 p.m. on Thursday, Oct. 25, in 150 Squires.

The final forum, which is for all Graduate Student Assembly representatives and interested graduate students, will be from 5:30 to 6:30 p.m. Thursday, Oct. 25 in 341 Squires.

"The dean of the Graduate School is a critically important position in achieving the university's goals of growing the graduate-student population, creating new graduate programs in both traditional fields and in new interdisciplinary areas of study, and nurturing

(See COMMITTEE on 4)

EMPLOYMENT

CLASSIFIED POSITIONS

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.

FULL TIME

Alternative Transportation Manager, 007223F, PB 4, Office of Transportation.
Electronics Technician, 007842B, PB 4, ECE.
Executive Secretary, 001322G, PB 3, University Libraries/Dean's Office.
Faculty Data/Procedure Technician, 006286G, PB 3, Personnel Services.
Federal Reimbursement Unit Analyst, 007847B, PB 5, IPO.
Federal Reimbursement Unit Lead Analyst,

007848B, PB 5, IPO.
Financial Aid Area Coordinator, 001519S, PB 5, AIS.
Financial Planning Manager, 007567F, PB 5, BFP.
Grants And Contracts Fiscal Technician, 007765J, PB 3, CHRE.
Housekeeping - Night Crew, 007814H, PB 1, RDP.
Housekeeping Manager, 006926H, PB 3, RDP.
Housekeeping Supervisor, 000269H, PB 2, RDP.
Housekeeping Worker, 007262J, PB 1, Recreational Sports.
Housekeeping Worker, P002005C, PB 1, Physical Plant.
Information Systems Administrator/Maintainer, 007849B, PB 5, STL/ISE.
Laboratory Specialist, 007707B, PB 3, CE.
Medical Technologist, 002596M, PB 4, VTH.
Multimedia Systems/Applications Specialist, 002054A, PB 4, VBS.
Payroll Manager, 002501F, PB 5, Controller's Office.
Plumber Steamfitter, 007339F, PB 3, Physical Plant.
Recreation Center Manger, 006956J, PB 3, UUSA.
Sous Chef, 000940H, PB 3, RDP.
Support Center Assistant Technician, 007080M, PB 3, CVM.

Trades/Utilities Mechanic, 000416H, PB 3, RDP.
Transportation Planner, 007498F, PB 4, Office of Transportation.
Visitor Center Receptionist, 007844S, PB 2, University Relations.
Web-Site Designer, 006824S, PB 4, WARD.

PART TIME

Animal Care Technician, W020066M, PB 2, VTH.
Animal Care Technician/Small Animal, W022675M, PB 1, VTH.
Circulation/Reserve Assistant, W023316G, PB 2, LASC.
Database Maintenance Assistant, W023317G, PB 2, LTS.
One part-time food-service position available.
Laboratory Specialist, W023305M, PB 3, APS.
Laboratory Technician, W023321B, PB 3, OSER.
Multimedia Programmer, W023319M, PB 3, AHNRRIT.
Museum Administrative/Program Specialist, 007242G, PB 2, MNH.
Office Assistant, W022996M, PB 2, CVM.
Office Services Assistant, W022114F, PB 2, RMS.
Program Support Technician, W023324M, PB 3, CVM.
Radiologic Technologist, W022238J, PB 3, SHC.
Smart Road Dispatcher, W023320G, PB 3, VTT.

OFF CAMPUS

Forester, 007846J, PB 4, CMI.
Geographic Programs Specialist, 007845M, PB 4, BSE.
Program Administrator, 006436Y, PB 3, Continuing Education.
Radio Announcer, W020800S, PB 3, University Relations/WVTF.

FACULTY POSITIONS

INSTRUCTIONAL

Human Development. Assistant Professor of Human Development/Extension Specialist in Family/Human Development. Contact: Jay Mancini, 366 Wallace (0416). Deadline: Jan. 15 or until filled.
Animal/Poultry Sciences. Assistant/Associate Professor. Contact: Mark McCann, 3460 Litton Reaves (0306). Deadline: Nov. 1 or until filled.

Pamplin College of Business. Faculty Positions. Contact: Richard Sorensen, 1030 Pamplin (0209). Deadline: May 1.

NON-INSTRUCTIONAL

Center for High Performance Manufacturing in Industrial and Systems Engineering. Research Assistant/Associate Professor. Contact: Frank Chen, 103 Durham (0118). Open until filled.

WHC president to lecture here

Bill Howard, president of Wildlife Habitat Council (WHC), will give a lecture Thursday, Oct. 18, from 3 to 4 p.m. at the Fralin Biotechnology Center on "Certification of Wildlife Habitat Restoration Projects and Conservation Education Programs at Corporate Sites."

This is the third lecture of the Public Seminar Series sponsored by the College of Natural Resources. All lectures, except for November 29, are scheduled from 3-4 p.m. Thursdays in Fralin auditorium. More information is available at <http://calendar.vt.edu/week.phtml>. The November 29 lecture will be held in 315 Cheatham from 3-4 p.m.

CHEW program features soprano

The final CHEW 2001 event, "Re-imagining the idea of the great composer," will be held in Squires Recital Salon Wednesday, Oct. 17, at 8 p.m.

The program will consist of a lecture-recital, "In a Woman's Voice," by Laura Mann, soprano. The event is open to the public at no charge.

Mann is a professional concert singer who is presently a touring artist for the Virginia Commission for the Arts.

The first half of "In A Woman's Voice" is historical, featuring songs from the 17th, 18th, and 19th centuries, sung to piano accompaniment. The second half presents new sounds by outstanding living American women composers, sung with piano and taped synthesizer. Some lecturing is included, which makes the recital highly informative as well as aesthetically rewarding and entertaining. Of special interest are selections from *The Vine of the Soul* by Judith Sainte Croix, concerning the wise use of rain forests.

VETERINARY

Continued from 1

time learning facts, second-year students are challenged to begin developing higher-order thinking skills by applying their knowledge in case-based problems.

One of the biggest problems she saw in her students was a tendency to jump to diagnostic conclusions on the basis of pre-conceived notions without fully considering all available evidence. To counter that, the Web-based auto-tutorial forces the students to work through a process where they "arrange data abnormalities in a causal hierarchy," Bender said.

By systematically identifying all available data as it relates to normative values, hypothesizing about the mechanisms responsible for the aberrations, and factoring those into a problem-solving hierarchy, the students build a deductive "argument for the complete pathogenesis of the disease," Bender said.

"It enables students to think better and account for their decisions better," she said. "They're thinking better," said Bender, "they're accounting for their decisions better."

PROFESSORS

Continued from 1

current can fluctuate around its average value. If these fluctuations, known as shot noise, are too large, the devices cannot be used in practice, he said. Di Ventra is attempting to understand the role of fluctuations in molecular devices.

"We must understand, if current fluctuations are large, how to make them small to develop more efficient molecular devices," he said. "That requires a novel theoretical approach." Since coming to Virginia Tech, Di Ventra has developed a theoretical scheme to study current fluctuations in nanoscale systems. The scheme allows a quantum-mechanical description of shot noise at the atomic level and therefore will shed more light on this phenomenon in molecular devices, he said.

Working in an entirely different area of nanoscience, experimental physicist Heflin and Van Cott are attempting to develop new sensor approaches for detecting the presence of biological entities—such as pathogens, DNA, or biological compounds—in an environment or a sample.

VTTI

Continued from 1

of the events leading up to a crash, or near crash, event.

"This is the largest instrumented-vehicle study ever attempted and will provide a wealth of new information to help understand, and eventually reduce, vehicle crashes" VTTI Director Tom Dingus said. Dingus, long-time driving-safety researcher, and Vicki Neale, leader of the Institute's Safety and Human Factors Group, will serve as the project principal investigators. "This project will provide a unique opportunity to study drivers' performance in their own vehicles in real traffic conditions," Neale said. "This study will help to bridge gaps in information that we gain from exploring driver performance in a controlled environment and analyzing crashes after they occur."

Gary Allen, director of VDOT's Transportation Research Council, was interested in co-sponsoring the work because of its potential contribution to VDOT's overall mission of making driving safer for Virginia residents.

The research using the NER grant will focus on the detection of DNA, Van Cott said. With the Human Genome Project in the spotlight and genomic-based medicine looking to see what genes are expressed in healthy versus diseased tissues, these findings will guide therapy and research dealing with those diseases. Most existing DNA-screening systems rely on radioactive labeling or fluorescent labeling of the sample DNA, and this labeling brings in another experimental step that can possibly introduce uncertainties, he said.

"Our system does not require labeling of the sample DNA, and so we believe that our method, combined with the unique optical properties of the sensor platform, will be more sensitive, more reliable, and still have the high through-put, or ability to look for thousands of genes at the same time," Van Cott said.

Heflin and Van Cott's research under the NER grant builds on a grant they currently have with Harry Gibson of chemistry in Arts and Sciences and Rick Davis of chemical engineering. That project's goal is to develop self-assembled films of nanometer-scale thickness, particularly those films that have non-linear optical properties, Heflin said.

"In that project, the self-assembled films grow in alternate layers of two different materials," Heflin said. "One of the two materials is specific for nonlinear optical properties. The other material is a glue. When we put on a layer of the second material, it causes a decrease in the signal we observe, in the intensity of light at the new harmonic frequency. Just the outermost layer causes the decrease. If we can find a way to specifically attach certain materials to the outer surface and have them cause a decrease, we would see the decrease if that target material was present, in a solution, for example."

Basically, Heflin said, he and Van Cott are modifying the nonlinear optical (NLO) materials so they have a biochemical group on them that recognizes only the target materials.

"We propose to use complementary DNA molecules so that, if we want to look for a particular DNA sequence, we can take a complementary sequence, attach it to the NLO material, and deposit it in a nanometer-thick film."



VIRGINIA POLYTECHNIC INSTITUTE
AND STATE UNIVERSITY

Spectrum, a faculty-staff tabloid, is published each Friday during the academic year, with the exception of certain holidays, exam weeks, and the summer. Copy deadline is noon Friday. No advertising is accepted.

Spectrum is a non-profit publication of the Office of University Relations: Lawrence G. Hincker, associate vice president for University Relations; David Nutter, director of college and media relations.

Editor
John Ashby, 1-6961

Assistant Editor

Production Manager
Melinda Shaver, 1-8524

Business Manager
1-8819

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

Electronic Spectrum. <http://www.unirel.vt.edu/spectrum/>

Virginia Tech does not discriminate against employees, students, or applicants on the basis of race, color, gender, sexual orientation, disability, age, veteran status, national origin, religion, or political affiliation. Anyone having questions concerning discrimination or accessibility regarding the programs described in this newspaper should contact the Equal Opportunity Affirmative Action Office: 540-231-7500 (v), 540-231-9460 (TTY).

Morgan named director of Wireless Telecommunications Center

By Susan Trulove

George E. Morgan, Suntrust professor of finance, has been named the new director of the Center for Wireless Telecommunications (CWT), according to James B. Blair, associate provost for research.

CWT is a University Interdisciplinary Research Center of Excellence in wireless and satellite communications, which conducts a broad range of sponsored research and education programs across 10 departments from the colleges of Arts and Sciences, Engineering, and the Pamplin College of Business.

Morgan has been director of the Space and Wireless Business Center since April 1994. His research focus is the economic and regulatory issues arising with space and wireless projects. He has been a principal investigator on a study commissioned by an arm of the U.S. Congress that produced an assessment of the develop-

ment of the national information infrastructure, on a study for an aerospace firm of the effect of satellite auctions on international business opportunities, and, along with colleagues in engineering and geography, on an NSF-funded project for interdisciplinary courseware on broadband layout, design, and business structure. He currently leads an interdisciplinary team developing financial/business models for rural broadband wireless and has led the effort to create commercial partnerships for spectrum resources owned by the university. Earlier he led the team that provided mission-critical support for the Virginia Tech Foundation's path-breaking acquisition of four LMDS licenses in the 1998 FCC auction.

Morgan's teaching has been focused on commercial banking, financial institutions, theory of finance, and financial/economic strategy for the communications industry.

Charles Bostian, the Clayton Ayre professor of electrical engineering, was the founding director of CWT. He will return to a full time focus on research and teaching responsibilities as an electrical and computer engineering faculty member following over a decade of leadership of the center and its predecessor center. He will continue active participation in the wireless research and education programs of the CWT.

Morgan's appointment was effective July 1. The Pamplin College of Business has agreed to a re-assignment of his duties beginning Fall 2001 to support the center's interdisciplinary mission while he continues teaching classes in Pamplin.

Since joining Tech, he served as a visiting scholar at the Commodity Futures Trading Commission and as a visiting lecturer at the International Space University.

CVC campaign begins for 2001

The Commonwealth of Virginia Campaign (CVC) held its annual Kickoff Luncheon on September 26, with Steve Mouras, Virginia Tech CVC coordinator commending the participants in last year's campaign for raising \$224,894 with 17-percent participation.

This year's campaign will run from 1 October through 7 December. The CVC provides state employees' with an opportunity to contribute to a choice of nearly 1,000 participating charities providing health and human services or animal or environmental welfare. It is the only workplace campaign for state employees and is the only one for which payroll deduction is authorized.

This year's theme is "Opening Our Hearts to Help Others," Mouras said. "This theme is even more appropriate now when we reflect on the tragic events of September 11."

The CVC has developed three funds to enable state employees to assist those affected by the events of September 11. Contributions designated to these three funds will only be used for disaster relief: 3901 American Red Cross, National Disaster Relief Fund; 3902 911 Fund, and 3903 Salvation Army Disaster Relief Effort.

Continuing this year is the "CVC Winner of the Week" feature in *Spectrum*. "Each week this fall," Mouras said, "we will feature a weekly prize winner selected by random drawing from everyone who has submitted a pledge card at that time." Prizes include Lively Arts tickets, an authentic Virginia Tech baseball sweatshirt, dinner for two at Hotel Roanoke, pet examination at Vet-Med Hospital, lunch for two at Donaldson Brown Hotel and others.

Mouras said he hopes to see a dramatic increase in the participation from all employees of Virginia Tech for the 2001 CVC Campaign. "We continue to have a need in our own communities for the work that only the charitable organizations perform," Mouras said, "and they truly appreciate all our support."

Arts and Sciences personnel changes detailed

By Sally Harris

Dean Robert C. Bates of the College of Arts and Sciences has named Susan Eriksson associate dean for K-12 science and math education: curriculum and outreach; and Carole Nickerson as director of strategic support for the college.

Eriksson's charge is to enhance the role of the College of Arts and Sciences in teacher preparation in science and math and to create a more nurturing environment for students who want to be teachers. She also will coordinate the college's efforts in continuing education for those already teaching.

Eriksson is an associate professor of geological sciences and was executive director of the Virginia Tech Museum of Natural History from 1990 through spring of 2001. She has received funding for research and outreach

totaling over \$1 million from such sources as the National Science Foundation, the Howard Hughes Medical Institute, Virginia Council for Higher Education, and the Institute of Museum Services.

Nickerson, who served as assistant to three Virginia Tech presidents, joined the English department as an instructor in 1986 and taught there until 1989. Among her duties was coordinating the graduate teaching assistants' (GTA's) training program.

In 1989, Nickerson became assistant to President James McComas. She served as executive assistant to President Paul Torgersen throughout his tenure as president. She remained for 18 months when Charles Steger became president to help with his transition before she retired. As director of strategic support,

Nickerson will work with departments and other colleges in the university to assist in advancing initiatives and building collaborative relationships within the departments as well as throughout the college and university.

Additionally, 10 new department or program heads, chairs, or directors in the College of Arts and Sciences began duties at the beginning of fall semester.

They are Col. R. Dennis Rider, Air Force ROTC; Terry Kershaw, Center for Interdisciplinary Studies (CIS); Musaemura Zimunya, black studies in CIS; Martha McCaughey, women's studies in CIS; Brian Britt, religious studies in CIS; Howard Sypher, Department of Communication Studies; Capt. James Snyder, Navy ROTC; Joseph Pitt, Department of Philosophy; Richard Rich, Department of Political Science; and John Ryan, Department of Sociology.

Trauma participants sought for study

By Sally Harris

George Clum, professor of psychology, is seeking people who have experienced traumatic events during their lives and who are suffering symptoms that may be related to those traumas.

The traumas could include interpersonal violence, witnessing violent acts, man-made accidents, natural disasters, occupation-related traumatic events, or any event that involved actual or threatened death or serious injury to the participant or someone else.

Participants in the Internet-based program must be experiencing any of the following symptoms: repeated recollections or nightmares of the event, including images, thoughts, or perceptions; repeated flashbacks of the event;

fear or anxiety on encountering things that remind the person of the event; increased heart rate, dizziness, sweating, or other physiological reactions to things that remind the person of the event.

Participation in the program will probably require about three hours per week for eight weeks on the Internet program. All information will be kept confidential. Although results of the study will be published or presented for scientific purposes, the participants' identities will not be revealed. Participants may withdraw from the study at any time.

Those interested in participating should e-mail Clum at gclum@vt.edu.

Researchers report on dental study

By Stewart MacInnis

Dental cavities among teenagers and young adults are not linked to soft-drink consumption, Virginia Tech researchers reported to the annual meeting of the American College of Nutrition.

The findings of Rich Forshee and Maureen Storey, research faculty members with the Center for Food and Nutrition Policy, are based on an analysis of a large, nationally representative nutrition-and-health survey conducted by the federal government.

"Our study shows that age is related to dental cavities," Forshee said. "The older we get, the more problems we are likely to encounter."

Forshee said the data show regular consumption of carbonated soft drinks is not

associated with dental cavities among adolescents, young adults, or older adults. There was, however, a positive association between soft-drink consumption and dental cavities among adults in the 25-to-40 age group.

He also said they found a modest association between socio-economic status and cavities in those 17 to 40 years of age. Respondents to the survey who had more income and more education had slightly fewer cavities than those with less income and less education.

Among those over 40, the study found that African-Americans, Mexican-Americans, and respondents of "other races" have fewer dental cavities than do Caucasians. Mexican-Americans in the 25-to-40 age group also reported fewer cavities than Caucasians.

The study by Forshee and Storey used data from the federal National Health and Nutrition Examination Survey III. The study was supported by an unrestricted grant from the National Soft Drink Association.

CENTER

Continued from 1

between food safety, production, and public health," he said. "We in the college of veterinary medicine see this new affiliation as a very logical relationship and an enormous step forward for Virginia Tech. We are very excited to be playing a role in this initiative."

Crawford has been director of the center since 1997. In former positions he was executive director of the Association of American Veterinary Medical Colleges, executive vice president of the National Food Processors Association, administrator of the U.S. Department of Agriculture's Food Safety and Inspection Service, and director of the Food and Drug Administration's Center for Veterinary Medicine. He was also a faculty member at the University of Georgia.

Non-Profit Organization, Postage Paid
Blacksburg, VA Permit No. 28

Virginia Tech
Blacksburg, VA 24061

COMMITTEE

Continued from 2

to excellence the broad range of graduate programs already in place," said Susan G. Magliaro, Search Committee chair.

The committee, she said, "is seeking an experienced, effective, and innovative leader who can create and carry out the vision to move the Graduate School and the institution as a whole toward achieving its goals in graduate education."

The position description is available on the provost's web site at <http://www.provost.vt.edu>.