SPECTRUM

Virginia Tech

VIRGINIA POLYTECHNIC INSTITUTE AND STATE UNIVERSITY *http://www.unirel.vt.edu/spectrum/* VOLUME 24 NUMBER 14 FRIDAY, DECEMBER 7, 2001

TODAY'S EDITION

See page 2 for information on research-funding opportunities.

Tech's Equine Medical Center dedicates new treadmill facility

By Jeffrey Douglas

The James P. Mills Diagnostic Treadmill Building was dedicated last Friday at the Marion duPont Scott Equine Medical Center (EMC) in Leesburg.

In unveiling the 2,800-square-foot facility, the EMC took a major step forward in its life as a biomedical research institution and formally introduced new diagnostic capabilities to the regional horse community it serves.

"This is a magnificent facility," said Peter Eyre, dean of the Virginia-Maryland Regional College of Veterinary Medicine during his keynote address. "Many people have been responsible for getting us to this point."

Money used to construct the new facility was donated by the private sector. The building is named in honor of founding council member James P. Mills, a horseman and breeder, who was a leader in achieving early diagnostic advances at the center. Several fund-raising initiatives have been undertaken over the past several years to support the treadmill project.

"I know that as horse owners you know how fortunate we are to have this in our area," said Shelley Duke, chair of the Equine Medical Center Council. Duke thanked all of the donors who had helped in the cause to develop "this fabulous new state-of-the-art treadmill."

William J. Abel-Smith looks on as G. Frederick Fregin, the Jean Ellen duPont Shehan professor and director of the EMC, prepares to activate the new treadmill during a demonstration held at the ceremony. (*R. Griffiths*)

Similar in concept if not in scale to a human treadmill, the high-speed equine diagnostic unit, capable of operating at speeds up to 60 miles per hour, will be used to evaluate a horse's cardiopulmonary and musculoskeletal functions under vigorous exercise in a controlled environment.

A video endoscope will be used to visually examine a horse's upper airways to diagnose respiratory problems not evident at rest. One of the distinctive features of the treadmill building will be the five video cameras positioned on each side, front, back and overhead. The cameras will be used to document and analyze subtle gait problems. Information related to heart, respiration, and gait also will provide useful data for clinical research projects.

"A lot of people have worked very hard to make this new facility a reality, and I think they are going to be very pleased with the opportunities it will create," said G. Frederick Fregin, the Jean Ellen duPont Shehan professor and director of the EMC in comments made after the event. "Opening this facility represents a major step forward for the EMC, the college of veterinary medicine, Virginia Tech, and of course the entire industry we serve."

During his keynote remarks, Eyre praised Fregin as a great "champion" of the EMC whose special style of leadership has made the partnership between a land-grant university and the private sector so successful.

"That partnership is going to be even more important in the future than it has been in the past," Eyre said, adding that the addition of the treadmill facility will help the EMC emerge as an even more important biomedical research facility during the decade ahead.

Founded in 1984 with $4 million donated by the late Marion duPont Scott on 200 acres of land donated by the Westmoreland Davis Memorial Foundation, the Equine Medical Center is one of three campuses operated by the Virginia-Maryland Regional College of Veterinary Medicine.

Local entrepreneurs to profit from 'CapTech 2002'

By Jeanne M. Garon

Fledgling Southwest Virginia technology companies can access millions of venture-capital dollars, helpful educational programs, and the opportunity to enter their business plans in a competition for cash and other awards during the upcoming CapTech 2002, a program offered collaboratively by Virginia Tech and the New Century Technology Council.

"We're building on the successful momentum we created during the Capital Access Forum," said CapTech 2002 Program Chair and Virginia Tech Director of Economic Development John Phillips. Last year's Capital Access Forum, CapTech 2002's predecessor program, brought more than 19 venture-capital organizations together with more than 300 participants and resulted in numerous local companies, most notably Luna Technologies, receiving funding.

"Entrepreneurs in the New Century Region don't necessarily need to travel to larger cities to get their companies funded," said Leon Harris, president of the New Century Technology Council (NCTC). "Virginia Tech and NCTC are teaming to bringing the funders here," he said, "meaning that CapTech not only benefits direct participants but also helps this entire region tell the story of how it is an emerging foothold for technology-led economic growth."

The educational component of CapTech 2002, which is Virginia's only technology-entrepreneurship series, will be held at the Roanoke Higher Education Center beginning January 8, when the educational session "Business Plans—Why Bother?" kicks off the series. This session, together with "Develop a Marketing Plan for High-Tech Companies" (February 5) and "Create a Successful Financial Plan and Managing Cash Flow" (March 5), each available for a $50 fee, will be offered from 7:30 to 11:30 a.m.

The sessions, which are open to the public, will also help prepare competitors for the business-plan contest. Competitors are expected to attend two or more of the workshops to get assistance in crafting and fine-tuning their business plans before they are submitted to a panel of judges. Phillips said participants in the business-plan competition stand to receive substantive cash and in-kind awards.

Competition winners—one each from the existing-business and start-up-business categories that have been created—will also have the opportunity to present their plans to additional venture, angel, and bank funding sources at the CapTech Forum to be held May 2, 2002, at the Hotel Roanoke and Conference Center.

The deadline for entries in the business-plan competition is March 8, 2002, but Harris advised all wishing to attend the three educational sessions to register early.

Companies interested in registering or receiving more information may visit *http://www.nctc-va.org/captech.htm*, contact Phillips at 1-2335 or *john.phillips@vt.edu*, or contact Gordie Zeigler at (540) 776-9820 or *gzeigler@nctc-va.org*.

The business-plan competition, CapTech 2002 classes, and spring CapTech Forum all are designed, said Phillips, to help innovative new companies improve their access to capital, accelerate commercialization of technology being developed in Southwest Virginia, develop and deepen the entrepreneurship knowledge-base in the New Century Region, and improve the competitive quality of technology business plans through mentorship and practical experience.

"As a nationally ranked technology research university," Phillips said, "Virginia Tech is pleased to partner with NCTC, the region's technology council, to provide significant resources for local entrepreneurs during today's highly competitive marketplace."

The New Century Technology Council has more than 130 member firms, representing more than 10,000 total employees in the region. Its objective is to initiate and support programs that improve the ability of the region to foster and sustain business growth in the technology industry.

NSF grant to investigate collaborative work

By Sally Harris

Researchers at Virginia Tech's Center for Human-Computer Interaction have been awarded a $449,998 grant from the National Science Foundation (NSF) to investigate techniques for coordinating computer-supported collaborative work.

People working collaboratively must establish and maintain awareness of one another's intentions, actions, and results, said John Carroll, professor of computer science. "Understanding the role of awareness in computer-supported collaborative work (CSCW) and developing effective software tools to support awareness are keys to the future success of CSCW systems," Carroll said.

The project will develop and evaluate a suite of awareness tools to support coordinated planning, action, and outcome analysis in collaborative science learning. The researchers will coordinate classroom-based field studies with a series of laboratory investigations to benefit from both the scope and ecological validity of a field study and the analytical focus and control of laboratory studies. Laboratory studies will adapt task-simulation methods, including the use of

(See NSF on 4)

ACTIVITIES

EVENTS

Friday, 7

The Statistical Consulting Center will no longer be accepting clients for the fall semester as of today at 5 p.m.

International Gift Festival, 8 a.m. to 7 p.m., Cranwell Center.

International Club, details TBA.

Men's Basketball, 9 p.m. Thorpe Classic: Murray State.

Saturday, 8

International Gift Festival, 9 a.m. to 4 p.m., Cranwell Center.

YMCA Hike, 10 a.m., YMCA Parking Lot.

Women's Basketball, 6 p.m.: At Liberty.

Men's Basketball, time TBA, Thorpe Classic.

Chamber Music, 8 p.m., Squires Recital Salon.

Sunday, 9

Chamber Music, 3 p.m., Squires Recital Salon.

Monday, 10

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

Choirs Concert, 8 p.m., Squires Haymarket Theatre.

Tuesday, 11

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

Ensemble Concert, 8 p.m., Squires Recital Salon.

Wednesday, 12

Classes End.

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

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

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

Men's Basketball, 7 p.m., Cassell Coliseum: Western Michigan.

Women's Basketball, 7 p.m.: At Radford.

Ensemble Concert, 8 p.m., Squires Recital Salon.

Thursday, 13

Reading Day.

Staff Senate, noon, Owens Banquet Hall: Annual Conference.

Friday, Dec 14

Pay Date for Faculty and Staff Members.

Exams Begin.

SEMINARS

Friday, 7

MCBB, 12:20 p.m., 102 Fralin: Maynard Olson, Washington.

Philosophy, 3 p.m., 225 Major Williams: Joe Neisser, Radford.

Highlands in Chemistry, 11:15 a.m., 3 Davidson: Wenbin Lin, North Carolina.

DOD funding homeland-security research

By Susan Trulove

Some $20 billion in funding to address homeland security needs, presently being appropriated, will include support of university initiatives, broad-area announcements (BAA), and specific solicitations.

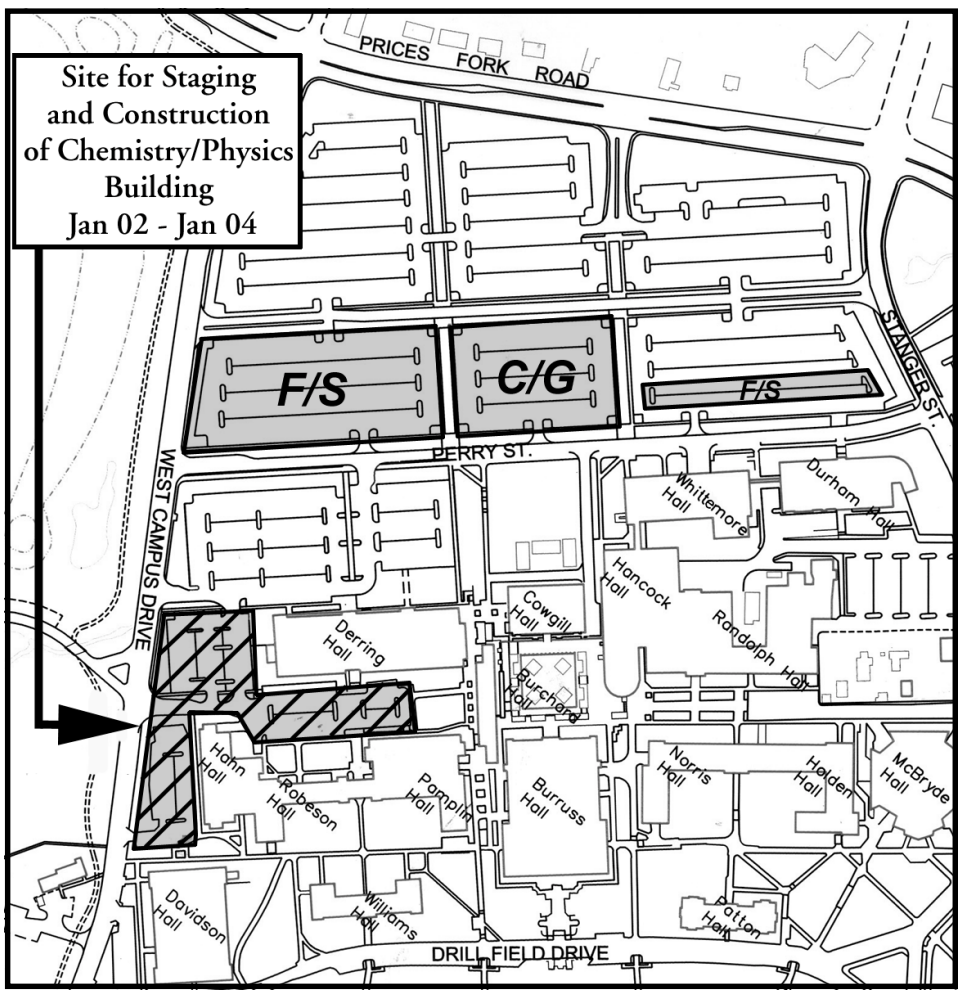
A recently issued Department of Defense BAA (02-Q-4655) is asking for one-page proposals due December 23 for a broad array of new technologies to assist in homeland security. Learn more at *www.bids.tswg.gov/tswg/bids.nsf/DownloadBAAs/02-Q-4655/$FILE/ATL+BAA+Package2.pdf* or link from the Opportunity Update site: *www.research.vt.edu/funding/ou/update.html/*.

"The BAA represents many of the DOD's agencies, rather than just one, as is usually the case," said David Sebring, director of government and corporate relations for the Virginia Bioinformatics Institute. "Although the department's mission is overseas security, such technologies as biological and chemical weapon sensors that protect soldiers also protect mail carriers, for instance."

Sebring said faculty members should be broadminded in their proposals for this BAA. "They are looking for technologies in such areas as cyber-security, to protect the network infrastructure; bioinformatics, for pathogen detection, attribution, and mitigation; biometrics, such as facial recognition that could be used on scanning TV cameras at airports and other facilities; and technologies to mitigate threats in transportation, commerce, mail, pretty much every aspect of our lives."

Sebring said researchers in animal and plant sciences should seek DOD funding. "The USDA is spending its money on physical security of buildings and very little on research. The technologies that agriculture uses to address its problems will come from the DOD. The technology to fight bio-terrorism is the same, whether the host is animal, plant, or human," he said. "And, in fact, with agriculture being a critical component of our quality of life and economic well-being, as one-sixth of the GNP, the threat to agriculture is more real than the threat to humans. But our researchers have to address this through the DOD."

There will be more about the DOD BAA, and other BAA's due from other agencies in the weeks ahead, on the Opportunity Update site: *www.research.vt.edu/funding/ou/update.html/*.



Construction to affect parking lots

A large section of Pamplin/Derring parking lot will be lost for two years to support the project staging area for the chemistry/physics construction begins on January 2. The only vehicles that will be allowed access to the area between Derring and Pamplin halls will be handicapped, service and vendors. There will only be parking spaces for these three types of vehicles.

B-lot (the large commuter lot off Price's Fork Road) parking spaces will change designation over winter break to begin addressing the significant loss of spaces. The center section (behind Cowgill Hall and across Perry Street), which is currently designated for faculty/staff parking will be converted to commuter/graduate parking on December 31. The section of B-lot to the west (behind Derring Hall and across Perry Street), which is currently designated for commuter/graduate parking will be converted to faculty/staff parking on December 31. This change will replace all the faculty/staff spaces lost to the construction project.

Several projects are being scheduled for summer 2002 to increase the number of commuter/graduate spaces in this region to replace those lost spaces.

Next week's *Spectrum* will include a detailed article on the Chemistry/Physics Building and other construction projects.

'Crazy' contest winners announced

By Paul Smartschan,
University Relations intern

The winners of the first-ever Virginia Tech "Crazy for the Hokies" logo contest were announced at Lane Stadium Saturday.

Jed Grice of Washington, Pa., took first place; Jamey Lee Davis of Wytheville took second place; and Amy Ankrum of Christiansburg took third place. These winners reproduced one of the four Virginia Tech logos in the biggest, most-creative, most-outlandish manner possible.

Grice and his uncle, Bruce Grice, cut a giant VT into a field that is located under the final approach to Pittsburgh International Airport. He will receive $1,000 cash from the Tech Bookstore, $1,000 worth of Hokie apparel from Peebles, and $1,000 of tailgating food from Kroger.

Grice's sisters, Heather and Meghan, both work in Virginia Tech's Office of Undergraduate Admissions. "The Grices are 'Crazy for the Hokies' and now its official," said Heather Grice. "We knew the competition for this contest was pretty tough, but we never expected to win. My entire family is really excited about it."

Davis placed second in the competition with his unique Hokie monster truck. He wins $500 cash from Tech Bookstore, $500 worth of Hokie apparel from Peebles, and $500 of tailgating food from Kroger. Davis' mechanical monster was tough, animated and original.

With the help of her co-workers at Comprehensive Computer Solutions, Amy Ankrum used over 5,000 colored balloons to construct a hovering giant VT and American flag logo. She and her co-workers will receive $250 cash from Tech Bookstore, $250 from Peebles, and $250 of tailgate food from Kroger.

"We are really excited about the response that we received for the contest," said Locke White, director of Licensing and Trademark Administration. "There were over 30 entries that came in from all over the country.

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

Assistant Computer Systems Administrator, 007885S, PB 4, CEE.
Assistant Director, Development Research, 007556S, PB 4, University Development.
Cgep Administrator, 007627B, PB 3, Engineering.
Computer/Internet Technician, 007884J, PB 3, Athletics.
Coordinator of Administrative Affairs, 007879R, PB 4, Executive Vice President's Office.
Customer Service Manager, 001525F, PB 4, Physical Plant.
Electrician, 000065F, PB 3, Facilities—Electrical Services.
Financial Planning Manager, 007567F, PB 5, BFP.
Fiscal Technician, 007882B, PB 3, CHPM.
Grounds Worker Senior, 002333F, PB 1, PPG.
Housekeeper, 001494J, PB 1, UUSA.
Housekeeping - Night Crew, 007814H, PB 1, RDP.
Housekeeping Manager, 006926H, PB 3, RDP.
Housekeeping Supervisor, 000269H, PB 2, RDP.
Housekeeping Worker, 000096H, PB 1, RDP.
Laboratory Mechanic B, 002629M, PB 3, VMES.
Laboratory Specialist, 007707B, PB 3, CE.
Laboratory Specialist, 007860M, PB 3, CVM—BSP.
Large Animal Veterinary Technician, 001996M, PB 4, VTH.
Meat Processing Facility Manager, 003273M, PB 4, FST.
Medical Technologist, 002596M, PB 4, VTH.
Multimedia Systems/Applications Specialist, 002054A, PB 4, VBS.
Operations Manager, 000780H, PB 4, RDP.
Operations Manager, 007121H, PB 4, RDP.
Project Coordinator, 006971F, PB 4, Physical Plant.
Radiologic Technologist, 002394M, PB 3, VTH.
Sous Chef, 007881H, PB 3, RDP.
Sous Chef, 000940H, PB 3, RDP.
Trades Utilities Senior Worker, 007112F, PB 3, Physical Plant.
Transportation Planner, 007498F, PB 4, OT.
Warehouse Specialist, 007142H, PB 2, RDP.
Web Designer, 002345Y, PB 3, CE.

PART TIME

Animal Care Technician Large Animal, W020066M, PB 2, VTH.
Animal Care Technician/Small Animal, W022675M, PB 1, VTH.
Benefits Support Specialist, 007888M, PB 2, Personnel Services.
Computer Support Technician, W023342R, PB 3, VTTI.
Department Administrative Support, 007889B, PB 3, CEE.
Fiscal Technician, W020810M, PB 3, VTH.
ICU Veterinary Technologist Large Animal, W022218M, PB 2, VTH.
Laboratory Specialist, W023305M, PB 3, APS.
Office Services Specialist, W022260M, PB 2, VTH.
Office Services Specialist, W023338J, PB 2, Dean of Students.
Office Specialist, 007887C, PB 2, Personnel Services.
Radiologic Technologist, W022238J, PB 3, Health Center.
Security Guard, W020470Y, PB 1, Police.
Storekeeper, W022291M, PB 2, VTH.
Veterinary Technician, W023340M, PB 4, VTH.

OFF CAMPUS

Adult Program Assistant, 006604J, PB 2, Prince William County.
Adult Program Assistant, 006602J, PB 2, HNEF.
Efnep Adult Program Assistant, 006103M, PB 2, VCE—Prince William County.
Radio Announcer, W020800S, PB 3, UR/WVTF Radio.
Research Specialist, 003230M, PB 3, Hampton Roads AREC.
Youth Program Assistant, 007233J, PB 2, HNFE.
Youth Program Assistant, 005889J, PB 2, HNFE.
Youth Program Assistant, 007464J, PB 2, HNFE.

FACULTY POSITIONS

INSTRUCTIONAL

Educational Leadership/Policy Studies. Assistant/Associate Professor, Educational Research. Contact: Dianne Yardley, 101 War Memorial (0317). Review begins Jan. 1.
Teaching and Learning. Assistant Professor, Technology Education. Contact: Dianne Yardley, 101 War Memorial (0317). Review begins Feb. 1.
Teaching/Learning. Assistant Professor, Instructional Technology. Contact: Dianne Yardley, 101 War Memorial (0317). Review begins Feb. 1.
Computer Science. Assistant Professors (2). Contact: Dennis Kafura, 660 McBryde (0106). Review begins Feb. 1.
Human Development. Assistant Professors (2), Marriage/Family Therapy Doctoral Program. Contact: Howard Protinsky, 366 Wallace (0416). Review begins Jan. 15.
Communication Studies. Faculty Positions. Contact: Beth Waggenspack, 121 Shanks (0311). Review begins Dec. 14.

NON-INSTRUCTIONAL

Office of Scholarships and Financial Aid (OSFA). Senior Associate Director. Contact: Lisa Shires, 222 Burruss (0222). Review begins Jan. 7.
Teaching/Learning. Department Head. Contact: Susan Asselin, 300E War Memorial (0313). Review begins Feb. 1.
Office of the Provost/University Special Initiatives. Master's in Information Technology Program Director. Contact: Leonard Ferrari, Torgersen 2000 (0285). Review begins immediately.
Athletics. Head Men's Soccer Coach. Contact: Pamela Linkous, 359 Jamerson (0502). Deadline is Dec. 10.
College of Engineering. Associate Dean for Research/Graduate Studies. Internal search. Contact: Edmund Henneke, 225 Norris (0219). Review begins Feb. 15.
Undergraduate Admissions. Assistant Director, Admissions. Contact: Jacqueline Nottingham, 201 Burruss (0202). Open until filled.
Undergraduate Admissions. Assistant Director, Multicultural Student Recruitment. Contact: Jacqueline Nottingham, 201 Burruss (0202). Open until filled.
College of Human Resources/Education. Finance/Personnel Operations Administrator. Contact: Valerie Giddings, 260 Wallace (0426). Review begins Jan. 28.

Virginia Tech
VIRGINIA POLYTECHNIC INSTITUTE AND STATE INIVERSITY

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/

CORRECTION

(*Editor's note: In last week's edition of *Spectrum,* the final paragraphs of the page-4 article 'Participants sought for innovative program' were inadvertently omitted. The omitted information is reprinted below.*)

Participants will also train at no cost in a private facility on North Main Street, with each session supervised by a personal trainer, and some participants will also receive personal nutritional counseling. The total value of the assessments and personal training and counseling is about $3,000.

The research group is particularly looking for men and women who fit the following criteria: males between the ages of 25 and 45 and females between the ages of 25 and 55; individuals who are currently sedentary and have been for the past six months; (participants who do not currently participate in any formal exercise or activity program more than one day a week are considered sedentary); individuals who consider themselves to be overweight. (Individuals who are 10-30 pounds more than their recommended weight are considered overweight.)

For more information and to enroll in the study, go to *www.vtactive4life.com*. For additional information, call Lesley Fox at 1-8747.

Center for Housing Research hosts Russian scholar, architect

By Aubrey Campbell,
University Relations intern

The Virginia Center for Housing Research at Virginia Tech has been host to Constantine Kijanenko, an architect, professor, and author from Russia whose studies and interests lie in housing policy and residential architecture.

Kijanenko was recently awarded a four-month grant through the International Research and Exchanges Board (IREX) to conduct independent research in the United States. The grant was sponsored by the Bureau of Cultural and Educational Affairs of the U.S. State Department through a Fellowship Program called Freedom Support Act in Contemporary Issues.

During his visit, his host professor and Center Director Ted Koebel said, "Kijanenko has contributed in housing-policy seminars about housing-policy transition that is problematic in Russia," noting that Russia is in transition from a centralized, planned socialist economy to a market economy.

Kijanenko's goal is to propagate the mechanism of joining resources of a free market, public sector, and ordinary people in Russia. He said in his studies he has discovered that the Russian impression of American housing policy is wrong. "Our characterization of American housing policy as 'selectivist,' in which the budget is limited for the use of a narrow group of people, is one-sided and not complete. I now understand that we underestimate the American tradition of searching for new approaches, partly in the sphere of partnerships and participation."

During his stay, Koebel said "we've been trying to expose him to different contacts and research through field trips and exploring different housing issues." He has also been exposed to various cultural events that the area has to offer, including a Hokie football game.

After leaving the university, Kijanenko was scheduled for a month-long internship to continue his study of social problems and aspects of housing at the Urban Institute in Washington D.C.

CVC News

CVC nears end

The Virginia Tech Commonwealth of Virginia Campaign (CVC) has reached 90 percent of the monetary goal set by the Tech CVC Steering Committee for this year.

However, the campaign has only reached 70 percent of the participation goal. The goals were $220,000 with 20-percent participation. As of November 30, the total was $199,595.98 with 14-percent participation. Steve Mouras, Virginia Tech's CVC chairman, said he was pleased to reach 90 percent of the goal because many charities have been struggling since many people contributed to charities related to the events of September 11.

CVC Ambassador Karen Cronin said contributors with a favorite charity can donate more money to that organization through the CVC pledge. She said all designated money is donated to the designated charities. Payroll deduction can make donations relatively painless.

Prizes are still available in the CVC incentive drawing, including a certificate for dinner for two at the Hotel Roanoke.

The campaign ends December 15. For a pledge card and campaign materials, contact Gloria Smith at 1-7810 or *ggsmith@vt.edu*.

In Other News

IPM project helps schools reduce pesticide use

By Stewart MacInnis

Facility personnel in a dozen school divisions will learn how use smaller amounts of pesticides to deal more effectively with pests, thanks to the efforts of a Virginia Tech professor.

Dini Miller, assistant professor entomology and an urban-pest-management specialist with Virginia Cooperative Extension, is beginning a project with 12 school divisions to reduce the use of pesticides in and around school buildings. She hopes to eventually extend the program state-wide.

School systems in the counties of Albemarle, Culpeper, Fauquier, Fluvanna, Greene, Louisa, Madison, Orange, Prince William, and Rappahannock, and the cities of Charlottesville and Waynesboro will participate in the project.

A pilot program completed this spring in Montgomery County eliminated calendar-based applications of insecticides from 24 schools. Miller said the pilot IPM program demonstrated the effectiveness of alternative pest-control methods. IPM, or integrated pest management, involves treating for pests only when they are detected, and using a variety of strategies to control them. Some of the strategies may not involve any toxic material at all, she said.

"What looked like something that could be a big monster change really wasn't," Miller said. "It was really a change in thinking."

The biggest change in thinking was to understand that pesticides should be used only when pests are detected, and not just assume that pests are present. Some strategies, such as using baits and traps, can drastically reduce the potential for children being exposed to toxic products.

The key to the IPM method is a systematic monitoring program that must be understood by facility managers and pest-control professionals. Traps for pests would be set at a variety of locations around school buildings, with pest-control professionals checking on them periodically.

When pests are detected, measures that are appropriate to deal with those pests can be taken in the locations they are found.

"It's certainly important that schools control pests," Miller said. "Often, however, pests can be controlled just as effectively and with reduced amounts of pesticides by intelligently employing a variety of strategies."

The thrust of the project is to educate school facility managers, employees of schools and pest-control companies, and others on IPM procedures.

Another element of the project is to provide training to school personnel who apply herbicides and insecticides to school grounds. Miller said the training, which includes safety measures both for applicators and the public, will prepare the personnel to be certified as pesticide applicators.

Funding from the project comes from the Virginia Department of Agriculture and Consumer Affairs, the Virginia IPM Program, and the Virginia Pest Management Association. Virginia Environmental Endowment funded the pilot program in Montgomery County.

In addition to training, Miller said the project will include a web site where facility managers will be able to access information about pests and IPM.

Rossen, Carroll publish undergraduate textbook in human-computer interaction

Mary Beth Rosson, associate professor in he Department of Computer Science, and John M. Carroll, professor and director of the Center for Human-Computer Interaction, have published an undergraduate textbook, *Usability Engineering: Scenario-based Development of Human-Computer Interaction*.

The book offers a unique combination of introductory human-computer interaction (HCI) material and hands-on usability methods not to be found in any other book on this subject matter. It integrates concepts and applications in requirements, design, and evaluation of interactive systems.

The HCI content is focused on material that is either central to an appreciation of human needs and preferences or that provides crucial support for the analysis, design, and evaluation of effective interactive systems. The book contains more content on requirements analysis, prototyping, and documentation design than most books in this area, but also contains less on human perception and cognition.

Also unique to this book is the authors' use of tradeoffs rather than the more commonly found HCI guidelines. The tradeoffs accurately reflect the challenges faced by designers and programmers in the real world and teach critical thinking and analysis to solve the problems encountered in the engineering cycle rather than a reliance on inflexible rules that are often inadequate.

The book's approach is to introduce and give an overview of the history of HCI and its concepts while emphasizing a project-based approach that allows readers to see how a project develops at different stages of the usability engineering cycle. The authors favor a scenario-based approach to usability, which uses scenarios as a representation that allows for analysis and for design of use. A scenario describes an existing or envisioned system from the perspective of one or more users and includes a narration of their goals, plans, and reactions.

"Everyone interested in good usability design knows that human-centered, iterative design with field studies, iterative prototypes and testing is the proper way to proceed," said Don Norman, emeritus professor at University of California San Diego, former chief scientist at Apple Computer, and author of many books on design. "But up to now, learning these skills is not easy, for we have lacked a single, systematic source of information about the methods. This book finally solves the problem. Here, in one comprehensive, easy to read text, there is extensive coverage of the multiple stages of a good interface development process.

The book is ideally suited for a problem-based curriculum, in which students simultaneously learn good development processes while completing a term project. The book gives excellent guidance, and the case study approach is an excellent organizer and motivator. At last, the proper problem-based textbook."

'Household power plant' wins national award

By Tatiana Aras,
University Relations intern

A team of Virginia Tech engineering students won second place in the 2001 Future Energy Challenge in Chicago. They received a $9,000 Performance Award for their original prototype of a low-cost inverter that could convert fuel-cell energy into enough electrical power to sustain a household. This type of inverter could lessen the nation's dependence on conventional power sources and also reduce environmental pollution.

Teams of students from 14 universities competed in the challenge, which was hosted by the Institute of Electrical and Electronics Engineers (IEEE).

The goal of the first biennial Future Energy Challenge was to encourage the development of low-cost inverters that are designed for distributed energy sources, demonstrate technical progress and potential for advanced technologies, and improve engineering education.

The Virginia Tech team, which was among five selected to compete in the final stages of the challenge, finished second by a close margin to Texas A&M University.

"Our goal was to develop a system for household application, similar to a power plant for each house," said Jason Lai, professor of electrical and computer engineering (ECE). Lai and Douglas J. Nelson served as the team's faculty advisors.

In the future, the type of inverters developed by Virginia Tech and other teams could be used to eliminate the drain on power supply companies during peak usage hours, Lai said.

Planning and building the inverter took the 10 students one year to complete and was a part of the ECE capstone senior design course. The five students who traveled to Chicago to participate in the challenge were Jeremy Ferrell, Heath Kouns, Leonard Leslie, Troy Nergaard, and Brandon Witcher.

Obituary

Robert K. France, 49

Robert Karl France, 49, died November 29 in Roanoke Memorial Hospital.

France studied and worked at Virginia Tech beginning in 1984, completing his M.S. and Ph.D. in computer science, and serving as senior member of the staff of the Research Department of the Computing Center and then of the Digital Library Research Laboratory. He provided support for the Networked Digital Library of Theses and Dissertations and for many projects and classes. He was the chief architect and developer of the CODER and MARIAN systems.

NSF

Continued from 1

confederate participants, from the social psychology of communication.

"A key scientific objective is to investigate and develop the notion of activity awareness, the awareness of project work that supports group performance in complex and long-term tasks," Carroll said. Activity awareness builds on previous research on social awareness of the presence of one's collaborators and action awareness of what collaborators are doing or what they have recently done.

The project was funded through the NSF's Information Technology Research program. It was one of six awards received by Virginia universities. Nationally, about 300 awards were made in this program and more than 2,000 proposals were submitted.

Principal investigators for the new project, entitled "Activity Awareness in Computer-Supported Collaboration" are Carroll, Daniel R. Dunlap, Philip L. Isenhour, D. Scott McCrickard, Dennis C. Neale, and Mary Beth Rosson, all of Virginia Tech's Center for Human-Computer Interaction. Carroll, McCrickard, and Rosson are also professors in the Department of Computer Science.