

SPECTRUM



VIRGINIA POLYTECHNIC INSTITUTE AND STATE UNIVERSITY

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TODAY'S EDITION
See page 3 for campus
news.

ASPIRES projects enhance research, scholarship

By Susan Trulove

Research and Graduate Studies (RGS) has announced the fifth round of ASPIRES recipients. ASPIRES stands for A Support Program for Innovative REsearch Strategies. Support from the Provost's Office and RGS provided \$1.2 million to support faculty members' programs in amounts ranging from \$6,365 to \$72,077. Winning proposals also included funding from departments, colleges, and other sources.

"By providing funds for research infrastructure enhancement, the intent is to increase a faculty member's success rate in competing for external support, and by providing funds, for example, for the purchase of research materials and the collection of research data, to enhance a faculty member's scholarship," said Gene Brown, associate provost for RGS program development.

Panel member Jerry Niles, associate dean of the College of Human Resources and Education, said of the selection process, "All proposals received a fair hearing. The

context in which proposals are reviewed helped reveal their strengths. I enjoyed my participation, which I attribute to the quality of the proposals, the diligence of the panel, and its leadership, which values research from all disciplines. It is through this kind of exchange that I think we enrich our academic culture at Virginia Tech.

"When faculty members ask me whether they should apply to ASPIRES, I will tell them yes—if they can write a good proposal (because the competition is stiff and the review rigorous) that demonstrates the value of the idea, the quality of the method, the promise of sustainability, and the support of their department and college," Niles said.

Since RGS established ASPIRES in 1996, the university has invested more than \$7 million through the ASPIRES program. In the period between 1996 and 1999, ASPIRES recipients have reported that this funding has resulted in the production of nearly 700 publications based on their research and has resulted in external sponsored research in the amount of \$62.5 mil-

lion, which is more than 10 times the amount of the university's \$5.9-million investment.

"We are particularly pleased to be able to support faculty members' research and initiatives," said Len Peters, vice provost for research and dean of the graduate school. "The results prove that these individuals are savvy. They know what needs to be done and how to do it. The result is a university with significant strengths to offer students and sponsors."

The guidelines for this year's ASPIRES program can be found at www.rgs.vt.edu/aspires/. For more information about ASPIRES, contact Brown at 1-5410 or efbrown@vt.edu. From 130 proposals, 38 were funded, as follows (listed alphabetically by department):

1. Roger L. Simpson of aeronautics and ocean engineering received funding for an argon ion laser for a cascade tunnel laser-Doppler velocimeter.
2. Edward J. Smith, Eric A. Wong, and Paul Siegel, animal and poultry science (APSC), for development of genomic reagents for un-

(See ASPIRES on 7)

Provost Search Committee holds open forum

By John Ashby

The search committee for a new university provost held an hour-long open forum for the campus community Wednesday, Jan. 17, with about 40 participants.

Search chair Peter Eyre, dean of the Virginia Maryland College of Veterinary Medicine, opened the forum by reviewing the committee's membership and the search timeline, which aims to conclude the process with on-campus interviews scheduled to take place between March 19 and 30. (Please see the search web page, which can be accessed from the university main screen, for a list of search committee members and for the timeline.) According to Eyre, the committee is currently reviewing dossiers and is on schedule to conduct off-campus interviews in mid-to-late February.

(See PROVOST on 8)

Presidents' Letter to Senate Finance Committee

(Editor's note: The following letter was sent on behalf of the Council of Presidents of the state's colleges and university to John H. Chichester, chairman of the Senate Finance Committee.)

I write on behalf of the presidents and chancellors of the public colleges and universities to share our view on the budget and its implications for Virginia's college students now and in the future.

Those of us who work in Virginia's colleges and universities saw the past year as one of great promise. It began with the recommendations of the governor's Blue Ribbon Commission on Higher Education and ended with the report of the General Assembly's Joint Subcommittee on Higher Education Funding Policies. During the summer and fall, leaders in the General Assembly stepped forward to recognize the renovation and building needs on our campuses and propose solutions. We remain grateful for all these expressions of support and for the efforts of each of those involved.

A year ago the Governor's Blue Ribbon Commission took the position that "Virginia's higher-education institutions cannot engage in effective planning and resource management without the advantage of stable and predictable funding." It deferred to the findings of the General Assembly's Joint Subcommittee to define an adequate level of funding to pro-

(See PRESIDENTS' on 5)



TO FIND OUT what research Maury Nussbaum is engaged in, please see page 3. (R. Griffiths)

Staff Senate Provides Opportunity for Participation

By Kimberly Richards-Thomas

In 1987, a university self study revealed that staff members wanted more opportunities to participate in university policy making. Respondents cited two priorities: the need for better communication about current issues and the desire to develop a formal staff organization parallel to the Faculty Senate. As a result, the Staff Senate was established 1991.

Today the Staff Senate represents every university employee who is not a faculty member or student. Each of Tech's approximately 3,300 classified staff members automatically belongs to one of 18 staff associations, and each staff association elects a representative to serve on the Staff Senate.

According to Staff Senate President Delbert Jones, College of Veterinary Medicine, the primary benefit of the Staff Senate is the emphasis on communication. Staff representation on

(See STAFF SENATE on 8)

CAMPUS
PROFILE

A Second Letter to the Faculty

As mentioned in a letter in November, the Faculty Senate has unanimously passed its new constitution but now needs your help in making this change official. This important task of streamlining senate procedures and bringing them up to date with current university realities will fail without your active support. According to the current constitution, 50 percent of you must vote on this revision and greater than 50 percent of those who vote must support the proposal to send it forward to the University Council.

Your senate has been in the process of updating the Faculty Senate Constitution and Bylaws during the past seven months. We realized last year that it had been many years since the constitution was last revised. Many changes have since occurred within the university, not least of which was the transition from quarter system to semester system. More importantly we recognized that the size of the Committee on Reconciliation is not substantial enough to handle the increased level of responsibilities.

During my tenure as a senate officer and now as president I have come to realize how few faculty members are aware of the senate and its roles. Briefly, the senate:

Serves as the only independent
(See LETTER on 8)

ACHIEVERS

Ten Residential and Dining Programs (RDP) staff members recently earned ServSafe® Food Protection Manager Certification. They include **Gary Allen, Chad Brodtkin, Eric Cartwright, Terry Gadd, Lori Greiner, Crystal Hollins, Barbara McGuire, James Surface, Linda Wheeler, and Mary Ann Williams**. The ServSafe® training program educates participants about preventing food-borne illness, reducing liability risks, lowering insurance costs, and improving food quality. The program is recognized by the International Food Safety Council.

Professor of Forestry **Bob Shaffer** and his graduate student **Tal Roberts** won a Forest Resources Association (FRA) Southeastern Technical Division Award for technical writing. The award was presented at the Southeastern Technical Division's meeting in Asheville, N.C. for their technical release, "*Injury Rates for Feller-Buncher/Grapple Skidder Operations*." The study was a follow-up to a larger FRA-funded Virginia Tech study of injuries on mechanized logging operations in the South. The Forest Resources Association Inc. is a nation-wide, non-profit trade association responsible for issues related to the safe and efficient harvest and transportation of forest products from the woods to the mill. FRA members include the nation's pulp and paper mills, wood dealers, independent logging contractors, and forestry-equipment companies.

Richard E. Schmidt, professor of turfgrass ecology, received the Fred V. Grau Turfgrass Science Award in November. The award was presented at the annual meetings of the American Society of Agronomy, the Crop Science Society of America, and the Soil Science Society of America in Minneapolis. The award recognizes significant career contributions in turfgrass science. Schmidt has conducted research in conditioning grasses to tolerate stressful environments.

W. Lee Daniels, professor of crop and soil environment sciences, has been named a first-place recipient of the U.S. Environmental Protection Agency's 2000 National Wastewater Management Excellence Award in Biosolids Research. He was recognized as a key member of a joint American-Polish team that successfully re-vegetated and reclaimed smelter waste in Poland. Portions of three Superfund cleanup sites in the United States are using the biosolids methodology development by Daniels' team.

Kriton Hatzios, director of the Virginia Agricultural Experiment Station and associate dean for research in the College of Agriculture and Life Sciences, will be named a fellow in the American Association for the Advancement of Science at that organization's annual meeting in San Francisco in February. Members of the association are elected to fellow status when "their efforts on behalf of the advancement of science or its applications are scientifically or socially distinguished."

Paul Knox, university distinguished professor and dean of the College of Architecture and Urban Studies, has been bestowed honorary membership in the Virginia Society of the American Institute of Architects (VSAIA). This honor recognizes individuals who are not eligible for membership in the society but have rendered distinguished service to the profession of architecture or to allied arts and sciences within the domain of the society. Also, Knox co-edited *Design Professionals and the Built Environment, An Introduction*, published by John Wiley & Sons, Ltd.

Ed Dorsa, associate professor in the industrial design program, was elected by the Industrial Designers Society of America as the Northeast District Educational Representative. Representing the 11 schools of the district, he will sit on the society's education committee and co-chair the district's yearly conference for professionals, educators, and students.

Mike O'Brien, professor of architecture, has been elected president of the Architectural Research Centers Consortium, Inc. (ARCC). ARCC is an international association of architectural research centers committed to the expansion of a research culture and supporting infrastructure in architecture and related design disciplines. O'Brien will be charged with strengthening the connections between ARCC and the Association of Collegiate Schools of Architecture, the American Institute of Architects, and the Institute for Architecture Research.

Y.A. Liu, the Frank C. Vilbrandt professor of chemical

engineering, received the National Friendship Award from the State Council of the People's Republic of China in an awards ceremony held in Beijing in December. The award recognizes Liu as one of the top 40 international experts and professionals among more than 10,000 working in China during 2000. He was cited for helping the Chinese petrochemical industries with technology development and engineering training from 1992 to 2000.

Annamalai Annamalai, assistant professor of electrical and computer engineering at the Alexandria Research Institute (ARI) in northern Virginia, has received one of the highest honors offered by the Institute of Electrical and Electronics Engineers, Inc. (IEEE). Annamalai won the 2001 IEEE Leon K. Kirchmayer Prize Paper Award for a paper on his work in the field of wireless communications. The paper, "Microdiversity Reception of Spread-Spectrum Signals on Nakagami Fading Channels," was published in *IEEE Transactions on Communications* in November 1999.

The Center for Excellence in Undergraduate Teaching (CEUT) and University Office of International Programs (UOIP) have announced the winners of the 2001 summer faculty fellowships. They are **Don G. Creamer** (educational leadership and policy studies) for "Curriculum Reform in Higher Education and Student Affairs: Adding Global Perspectives"; **Elizabeth Creamer, Terry Kershaw, and Stacey Floyd-Thomas** (Center for Interdisciplinary Studies) for "Developing an Area 7 Course: Introduction to Interdisciplinary Studies"; **Terry L. Clements** (landscape architecture) for "Expanding Understandings of Landscape Architecture Traditions"; **Khidir W. Hilu** (biology) for "Augmenting the International Experience in the Summer Course 'Botanizing the Alps'"; **Peggy S. Meszaros** (human development) for "Technology Impacts on Children, Youth, and Families"; and **Dixie Watts Reaves** (agricultural and applied economics) for "Researching the Foundation of the Modern Cooperative Movement." The grants will support faculty travel abroad to further research projects and curriculum development. A total of \$32,500 was awarded.

Harry L. Haney Jr., the Garland Gray professor of forestry, was presented the 2000 Public Service Award by the Association of Consulting Foresters of America Inc. at its annual meeting in Charlottesville. The award recognizes his outstanding service to the public, forest landowners, the forestry profession, and consulting foresters in promoting sound forestry through public education.

Pamplin College of Business Dean **Richard E. Sorensen** served as one of three judges last fall for the first annual Torch Awards for Marketplace Ethics, organized by the Better Business Bureau of Western Virginia. The award recognizes Western Virginia companies "that maintain a solid commitment to conducting their business practices in an ethical fashion." The winners were Virginia Varsity Transfer Inc., Fink's Jewelers, Boxley Company, and Kroger Mid-Atlantic.

Carrie Earthman, assistant professor in the Department of Human Nutrition, Food, and Exercise, received \$500 from the American Dietetic Association Research Dietitians Practice Group 2000 for the First Author Published Paper Award. The paper, "A comparison of bioimpedance methods for detection of body cell mass change in HIV infection," was published in the *Journal of Applied Physiology* in March 2000.

Brian Mihalik, head of the Department of Hospitality and Tourism Management, was awarded the 2000 Executive of the Year Award (EOTY) by the New River Valley Chapter of the International Association of Administrative Professionals. Mihalik was nominated by Sandy Graham, his administrative assistant, and selected by a special EOTY committee.

Several faculty members and students from the Department of Near Environments, Clothing and Textiles attended and presented at the International Textile and Apparel Association (ITAA) annual meeting in Cincinnati, Ohio in November. Graduate student **Katherine Carroll** received the ITAA Fellowship award (\$1,000) for continuing doctoral-level students.

Michael Houston, head of the Department of Human Nutrition, Food, and Exercise, was the keynote speaker at the

2000 International Congress on Exercise Nutrition in Taegu, Korea. Houston's topic was "The importance of antioxidants in foods and supplements for the training and performance of elite sportsmen." The second edition of Houston's book, *Biochemistry Primer for Exercise Science*, will be published in February.

Joan McLain-Kark, Julia Beamish, and Karen Roberto received a \$100,000 grant from the American Association of Retired Persons/Andrus Foundation for a research study titled "Using the CAVE to Determine Residents' Preferences and Functioning in Assisted Living Private Spaces."

Sherry Schofield-Tomschin and Anna Marshall-Baker received a \$15,000 grant from the Alzheimer's and Related Disease Research Award Fund for their proposal titled "Tactile and Visual Stimuli in Alzheimer's Care Units: Incorporating Quilts in the Living Environment."

John M. Carroll, professor in computer science and director of the Center for Human-Computer Interaction, has published *Making Use: Scenario-based Design of Human-computer Interactions* with MIT Press. The book argues that narrative descriptions of human activity should be a focal design representation for developing interactive computer systems and software. Carroll also edited a special issue of the journal *Interacting with Computers* on scenario-based design in October 2000. This issue included his article "Five reasons for scenario-based design." Carroll also published an article on scenario-based design in the recently published *McGraw-Hill Yearbook of Science and Technology 2001*.

At OzCHI 2000, the annual conference of the Computer-Human Interaction Special Interest Group of the Ergonomics Society of Australia, held at the University of Technology in Sydney, Australia, Carroll joined **Mary Beth Rosson**, associate professor in computer science, to present "Nonfunctional Requirements in Scenario-Based Development." They also presented a full-day tutorial on scenario-based usability engineering, and Carroll gave the keynote address. The paper and Carroll's address were published in the conference proceedings, *Interfacing Reality in the New Millennium*.

Robert Bodnar, Department of Geological Sciences, and three members of the department's Fluids Research Laboratory made presentations at the recent annual meeting of the Geological Society of America in Reno, Nevada. Bodnar presented an invited talk entitled "Origin of secondary mineralization at Yucca Mountain, Nevada: Implications for repository safety." He also co-authored two presentations with colleagues from the University of Tennessee and the University of Oregon. Post-doctoral researcher **Andreas Audétat** presented a talk entitled "Barren vs. mineralized intrusions: The importance of aqueous fluid immiscibility." Post-doctoral researcher **Maria Mercedes Gonzalez** presented a talk entitled "Na/K partitioning between vapor and liquid in the NaCl-KCl-water system at 600-800°C and 500-1300 bars." Doctoral candidate **Jay Thomas** presented a talk entitled "Melt inclusions in zircon as recorders of melt evolution in crystallizing granitic plutons."

Physical Plant Director **Bill Elvey** was recently elected first vice president for the Southeastern Regional Association of Physical Plant Administrators. In this position, Elvey is responsible for preparing the organization's 2001 annual meeting, which will be held in Roanoke. The southeastern region includes Virginia, Alabama, Florida, Georgia, Kentucky, Louisiana, Mississippi, North Carolina, South Carolina, Tennessee, West Virginia, Jamaica, Puerto Rico, and the U.S. Virgin Islands.

Graduate students from the Center for Public Administration and Policy (CPAP) were represented on various panels at the Southern Political Science Association meetings held in Atlanta in November. Doctoral candidate **John Aughenbaugh** presented a paper entitled "Meeting the Demands of Modern Governance: The Administrative Philosophy of Justice Byron White." Doctoral candidate **Kevin Long** presented "Distinctive Competence: The Role of Virginia Attorneys General Opinions in State Governance." Doctoral student **Edie Moussa** offered a paper entitled "Agency for Healthcare Research and Quality, and the Dynamics of Institutional Isomorphism." And doctoral candidate **Bill Andrews** presented "The Keep Commission: Early Efforts at Administrative Efficiency in the Federal Government."

NIOSH grant research may help older workers remain competitive

By Liz Crumbley

Getting older and feeling weaker?

Among healthy people, muscle strength decreases by only about five percent between the ages of 25 and 40. But between the ages of 50 and 60, muscle strength decreases by about 20 percent.

To many of us this change is noticeable only while we're working out at the gym or rearranging furniture, but it's a matter of critical importance to the millions of aging workers in physically demanding jobs.

It's also important to Maury Nussbaum, assistant professor of industrial and systems engineering (ISE), who has received a \$425,000 grant from the National Institute of Occupational Safety and Health (NIOSH) to study the effects of age on work capacity.

"Physically demanding work isn't going away," Nussbaum said. During the mid-1990s, he noted, about 12 percent of workers were over 55 years of age and that is expected to rise to 15 percent within five years. Many of these workers are doing the same sort of physical work—from assembly-line jobs to heavy construction—that they did in their 20s, and would like to keep their jobs because they pay well.

"By 2020, about 52 million people in the U.S. will be over 65," he said. "Many workers are staying on the job longer, and many industries have increased the average age of workers doing physically demanding jobs. We need to learn what older workers are capable of doing during complex exertions."

Nussbaum works in ISE's Human Factors Engineering and Ergonomics program. "We try to learn how the workplace and work tasks affect workers and how to design work to maximize capacity and minimize risk," he said.

There's evidence of an intriguing twist to the fact that muscle strength is diminished with age, Nussbaum said. As we age, we may also develop more endurance. "Despite being weaker, older workers seem to have more resistance to fatigue."

Muscles are composed of two types of fibers—"fatigue-able" and fatigue-resistant. The fatigue-able fibers provide maximum strength or force, and we experience a selective loss of these fibers as we age. So, Nussbaum said, we are left with more of the fatigue-resistant fibers.

"If young and older workers are performing the same tasks, the older ones are typically working at a higher proportion of their capacity.

Companies realize that older workers also tend to be more reliable and experienced."

With all of this in mind, Nussbaum and Laura Wojcik, a former member of the engineering science and mechanics faculty, developed a proposal for NIOSH funding. "Our central hypothesis is that older, more-experienced workers would have greater endurance on the job if tasks could be adjusted to their work capacity," Nussbaum said.

To test this hypothesis, Nussbaum will recruit groups of young workers—18 to 24 years old—and older workers—55 to 65—from the Blacksburg area and have them perform sets of exercises. As they exercise, they'll be connected to mechanisms in ISE's Industrial Ergonomics Laboratory that will measure force, torque and muscle activity. The test groups will perform intense exercises for short periods of time and light exercises for prolonged periods. Wojcik will act as a consultant on the project.

The project also is aimed at evaluating realistic tasks. "Lots of research has been done using constant force and posture," Nussbaum said, "but in the real world people are moving around."

Another goal is to assess the levels of fatigue that the subjects experience. "We need to see if there are simple measures that can be developed for companies to use in alleviating fatigue so that workers can perform to their maximum capacity."

If the theories behind the project can be proven, Nussbaum believes, companies can learn how to modify the workplace and tasks so that older workers can be more effective and stay in their jobs longer.

"Many companies already are adjusting tasks to accommodate older workers," he says. "We hope this research will help more companies make adjustments and overcome their resistance to hiring and keeping older workers."

Fatigue and work-related injuries—particularly of the spine—are of special interest to Nussbaum, who has created a computer program that simulates and measures the effects of various motions and stresses on the spine and supporting muscles. "The assumption is that reducing fatigue will reduce injury as well as increasing efficiency," he said. "Industry is very receptive to this type of research, particularly when it leads to specific recommendations or guidelines."

Tech graduate student helping Jamaican farmers

By Sally Harris

When Jamaican farmers attempt to export their hot peppers to the United States, the peppers are quarantined because a pest called the gall midge has been intercepted in hot-pepper shipments to the U.S.

The U.S. forces the Jamaicans to fumigate the crop before exporting it because the gall midge is not native to the U.S. and the U.S. Department of Agriculture naturally does not want it to enter this country and have a possible negative impact on U.S.-grown produce. Fumigating the pepper costs more money and deteriorates the quality of the peppers, so the Jamaican farmers lose money.

Virginia Tech geography graduate student Ryan Williams is working with the Office of International Research and Development (OIRD) in the Integrated Pest Management

Collaborative Research Support Program (IPM CRSP). He is building on the work of his advisor, Larry Grossman, along with Andy Roberts of entomology, who helped conduct two workshops in training Jamaican agricultural scientists how to use Information Systems (GIS) in IPM. Williams decided to follow up with work using GIS for the spatial analysis of the gall-midge pest in hot-pepper production.

GIS is a digital-mapping tool used to analyze and interpret spatial patterns on Earth's surface. It can be used to map the distribution of insects and other environmental and social phenomena.

Integrated Pest Management is an approach that attempts to use alternatives to agrochemical use in pest control. "Completely eliminating the midge is unlikely," Williams said. "It's more realistic to find out where it is on the island and why it's occurring there. That's my role."

Williams used GIS to discover the patterns of gall-midge distribution across Jamaica and why those patterns exist. Williams visited 50 farmers on both large-scale and small farms to ask about production methods, agrochemical use, and marketing. He used a global-positioning system (GPS) receiver, which obtains information from the GPS of satellites that orbit the globe and transmit signals to GPS receivers, to determine the elevations and locations of the farms on the Earth's surface.

He then used this information and the Arc View software program to find out if farmers' production methods or environmental factors such as the amount of rain encouraged the gall-midge pest to thrive in particular locations. The spatial patterns of the gall midge he found using statistical analysis of his findings. The patterns were related mostly to elevation, which influences the amount of rainfall. Farms located at higher elevations tend to have a higher incidence of the gall midge because the pest thrives in moist conditions and rainfall increases with elevation. "This tells me what the farmers have been saying all along," Williams said, "that when they have more rainfall, they have more problems."

Both large- and small-scale farmers are

affected by the gall midge, but small-scale farmers have particular problems in the production and marketing of hot peppers. Because of the history of land tenure on Jamaica, small-scale farmers tend to cultivate at higher elevations, which are more susceptible to gall-midge infestations. Small-scale producers also suffer because they have difficulty finding reliable and consistent markets. Also, this year's 75-year-record drought hurt small-scale producers because many did not have the financial means to irrigate their farms.

Williams also is using GIS and spatial analyses to locate pest-free areas on the island where farmers could minimize infestations if they followed certain guidelines. Corroborating his first findings, he discovered that farms located on the leeward side of the island below 1,000 feet in elevation had the driest conditions and were least prone to gall-midge infestations.

While some farmers own their own lands, others lease them, periodically moving the place of production. Williams wants to make pepper farmers aware of the conditions that favor gall-midge problems as they vary across space. His findings may help producers make better choices for production locations.

Williams's work is about making farmers aware of cultural methods to pest control, an alternative to agrochemical use. Others are working on coming up with other insect pest-control methods. Williams is working with a host agency, the Caribbean Agricultural Research and Development Institute (CARDI) and the Rural Agricultural Development Authority (RADA), which provides the extension offices that will communicate his findings to farmers.

Williams is working with Virginia Tech's Sue Tolin of plant pathology, chair of the Caribbean site of the IPM CRSP. IPM CRSP is a project funded by the U.S. Agency for International Development (USAID) and is managed locally by Virginia Tech's Office of International Research and Development.

CEUT-UOIP summer fellowships announced

The Center for Excellence in Undergraduate Teaching (CEUT) and University Office of International Programs (UOIP) have announced the winners of the 2001 summer faculty fellowships.

Winners are Don G. Creamer (educational leadership and policy studies) for "Curriculum Reform in Higher Education and Student Affairs: Adding Global Perspectives"; Elizabeth Creamer, Terry Kershaw, and Stacey Floyd-Thomas (Center for Interdisciplinary Studies) for "Developing an Area 7 Course: Introduction to Interdisciplinary Studies"; Terry L. Clements (landscape architecture) for "Expanding Understandings of Landscape Architecture Traditions"; Khidir W. Hilu (biology) for "Augmenting the International Experience in the Summer Course 'Botanizing the Alps'"; Peggy S. Meszaros (human development) for "Technology Impacts on Children, Youth, and Families"; and Dixie Watts Reaves (agricultural and applied economics) for "Researching the Foundation of the Modern Cooperative Movement."

The grants will support faculty travel abroad to further research projects and curriculum development. A total of \$27,500 was awarded.

New Women's Center director named

Ellen Plummer has joined Virginia Tech as director of the Women's Center.

Plummer's last appointments were at Duke University, where she was director of its Women's Center for six years, director of gender equity and harassment prevention, and most recently assistant director of the pre-major advising center.

Plummer, whose special interest is in women's leadership education, will concentrate on developing the women's leadership academic concentration in collaboration with the Women's Studies Program and other partners.

Virginia Tech

VIRGINIA POLYTECHNIC INSTITUTE AND STATE UNIVERSITY

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ACTIVITIES

EVENTS

Friday, 26

YMCA Open University Registration, 9 a.m.-6 p.m., 403 Washington St.

Faculty of First Year Students Discussion, 3 p.m., DBHCC conference room F.

Saturday, 27

Saturday Science Program, 11 a.m.-noon, 428 N. Main St.: 1-3001 to register.

Men's Basketball, noon, Cassell Coliseum: St. John's.
Black History Month Performance, 7 p.m., 105 PAB: Call 1-7528 for information.

University Chamber Music, 8 p.m., Squires Recital Salon: David Ehrlich and Friends.

Sunday, 28

YMCA Hike, 1:30 p.m., Lancaster House parking lot.
University Chamber Music, 3 p.m., Squires Recital Salon: Chamber Music for Strings.

Monday, 29

Faculty Development Workshop, 10 a.m.-noon, 1120 Torgersen: 1-8029 for information.

Faculty Development Workshop, 3-5 p.m., 3060 Torgersen: 1-8029 for information.

Black History Month Event, 7-8:30 p.m., Squires Black Cultural Center: 951-5696 for information.

Tuesday, 30

Black History Month Begins.
Faculty Development Workshop, 10 a.m.-noon, 1120 Torgersen: 1-8029 for information.

Wednesday, 31

Faculty Development Workshop, 10 a.m.-noon, 3060 Torgersen: 1-8029 for information.

"With Good Reason," 7 p.m., WVTF: "O'Keefe in Williamsburg."

Women's Basketball, 7 p.m.: At Syracuse.
Men's Basketball, 7:30 p.m.: At Boston College.

FEBRUARY

Thursday, 1

Salary and Wage Paydate.
Faculty Development Workshop, 10 a.m.-noon, 1120 Torgersen: 1-8029 for information.

Faculty Development Workshop, 10 a.m.-noon, 3060 Torgersen: 1-8029 for information.

Faculty Development Workshop, 10 a.m.-noon, 1140-H Torgersen: 1-8029 for information.

Family/Work/Life Resources Program, noon-1 p.m., location TBA.

VTntnug, 4-5 p.m., CEC rooms D/E: E-mail marcd@vt.edu for information.

Black History Month Concert, 8 p.m., Burruss auditorium: Jazz Poet Society Band.

SEMINARS

Friday, 26

MCBB, 12:20-1:10 p.m., 102 Fralin: Alfred H. Merrill, NIH.

Monday, 29

STS Seminar, 12:15 p.m., 132 Lane: Burt Kaufman.

Tuesday, 30

Statistics, 3:45 p.m., 409 Hutcheson: Fei Zou, University of Wisconsin.

UAP Seminar, 4:30 p.m., DBHCC, Room F: Chris Paterson, Sustainable Measures, Inc.

FEBRUARY

Thursday, 1

Statistics, 3:45 p.m., 409 Hutcheson: Omer Ozturk, Ohio State.

Geological Sciences, 4 p.m., 4069 Derring: Carolyn Ruppel, Georgia Tech.

IPP, 4 p.m., 409 Saunders: Jon Monroe, JMU.

Friday, 2

MCBB, 12:20-1:10 p.m., 102 Fralin: Dean DellaPenna, Michigan State.

Highlands in Chemistry, 11:15 a.m., 3 Davidson: Ian Harrison, UVA.

BULLETINS

UOIP sponsors grant-writing workshop

The University Office of International Programs (UOIP) is sponsoring a grant-writing workshop to be held in two sessions, Friday, Feb. 9 and Friday, Feb. 16. Participants will meet in 1020 Torgersen from 2-4 p.m. on both days. Experienced grant writers will guide faculty members and administrators through the entire grant-writing process, from locating funding sources through preparing a grant application. Participants should bring to the first session a list of key words describing the grant they plan to write. By the end of both workshops, each person should have a proposal ready for submission. For information, contact David Britt at 1-5888 or dbritt@vt.edu.

Museum presents Saturday Science

Saturday Science programs for children in kindergarten through third grade will be held on the fourth Saturday of every month from 11 a.m.-noon at the Virginia Tech Museum of Natural History. The activity is free, but enrollment is limited, and pre-registration is requested. The next program, "Are You Me?" will be held Saturday, Jan. 27. Call 1-3001 to register.

Wallace Gallery features photographic essay

The Wallace Hall Gallery is now exhibiting the

photographic essay "DESIGNCOMMONS: Design in the Commonplace" by James Winebrenner, interior design professor, University of Florida. The exhibit explores the immediate environment as a source for art, design, and architectural vocabulary. The gallery is open from 9 a.m.-5 p.m., Monday-Friday, and the exhibit runs through February 23.

Consultant speaks about drugs and alcohol

On Monday, Feb. 5 at 7:30 p.m. in Cassell Coliseum, the Athletics Department will sponsor an hour-long alcohol prevention program given by Mike Green of Mike Green's Collegiate Consultants on Drugs and Alcohol. The program, called "4 Stages of Drinking," is open to all students, and faculty and staff members. Green promotes drug and alcohol awareness on college campuses nation wide, has developed drug and alcohol programs for New Jersey high schools, and has produced programs for the medical societies of both New Jersey and Virginia.

Committee requests faculty feedback

The Committee on Conflicts of Interest and Commitment is monitoring implementation of the new Conflicts of Interest and Commitment Policy and reporting feedback to the Commission on Faculty Affairs and University Council. The committee is soliciting feedback from faculty members who have not responded. The policy, associated forms, and background material can be

found at <http://www.provost.vt.edu/fhp/fhp.html>.

Comments and suggestions should be sent by January 31 to Lud Eng (0442) or laeng@vt.edu.

RDP seeks nominees for A. Alan Baird Award

The Department of Residential and Dining Programs (RDP) is seeking nominations for the 2000-01 A. Alan Baird Award. The award honors the student who has contributed the most to the residence-hall program during or culminating in the current academic year. All students are eligible, including those not affiliated with RDP. Nominations can be submitted on line at www.rdp.vt.edu/baird. Mail hard-copy attachments to Lori Greiner (0223). For information, call 1-8068, or e-mail lgreiner@vt.edu. The deadline is 5 p.m. Friday, Feb. 16.

CAEE Tutoring Program re-certified

The Center for Academic Enrichment and Excellence (CAEE) Tutoring Program has been re-certified for five years by the College Reading and Learning Association. The program has been certified since 1996 and offers free tutoring for select subjects to all undergraduate students. The mean peer rating for all CAEE tutors from 1996-2000 is 3.8 on a four-point scale. Information about the tutoring program and other CAEE programs is available at <http://www.cae.vt.edu> or 1-4133.

UOIP-CEUT 2001 mini-grants announced

By Jeanne Garon

The University Office of International Programs (UOIP) and Center for Excellence in Undergraduate Teaching (CEUT) have announced the winners of 2001 mini-grants for faculty members.

The winners are Elizabeth Creamer (Center for Interdisciplinary Studies) for "Linking Study Abroad to IDST 3114"; Susan and Kenneth Eriksson (geological sciences) for "Explicit Use of International Issues in Physical Geology: Weathering, Erosion, Transportation, and Sedimentation on Three Continents"; Michael Bentley and Josiah Tlou (teaching and learning) for "Southern African Studies Institute for Teachers Project"; Douglas Eckel (political science) for "European Models of Urban Sustainability"; Khidir Hilu (biology) for "Botanizing the Alps"; Muriel Lederman (biology

and women's studies) for "Gender and Science"; Earl Kline (wood science and forest products) for "Global Use of Wood and Emerging Processing and Information Technologies"; Robert Tracy (geological sciences) for "Volcanoes and Volcanic Processes"; Justo Ulloa (foreign languages and literatures) for "The Integration of Language, Literature, and Culture through Intensive Studies at Uninter"; J.M. Visser (forestry) for "Development of International Guests Lectures"; John Williams (hospitality and tourism management) on "Research on the Globalization of Hospitality Companies"; and Bailey Van Hook (art and art history) for "Survey of History of Western Art."

The grants will be used to increase the amount of international content in specified courses. A total of \$11,800 was awarded.

Provost's program speaker to discuss academic advising

As part of the Virginia Tech's initiative to improve and heighten awareness about the importance of student advising, the Provost's Office has announced the visit of Nancy King to discuss "Future Trends in Academic Advising."

With the electronic age upon us, and more communication being handled between professors and students by e-mail and web sites, many wonder what the role of human beings, as advisors, will be in the future. King will address the issue of "Future Trends in Advising" on February 2 in 150 Squires at 3:30 p.m.

King's visit is an outgrowth of the task force and implementation committees and their work on undergraduate academic advising, and

the climax to the 2000-2001 academic year workshops for faculty and staff members that have focused on specific issues related to academic advising.

King received her doctorate in English literature from Georgia State University in 1984. She has served on the faculty as an English professor at Kennesaw State University in Kennesaw, Georgia for a number of years and is vice president for student success and enrollment services at Kennesaw State University.

King is a champion for successful academic advising and its role as an integral part of the higher-education process, specifically that of improved retention rates.

Old partnership leads to new exchange

By Sarah Newbill

For the past 12 years, a relationship between Virginia Tech and Uruguay has been incubating, and has recently had renewed life with the announcement of a new student-exchange program through a memorandum of understanding signed recently by President Charles Steger and *Universidad* ORT President Jorge Grunberg. This agreement now opens the door university-wide for those interested in participating in an Uruguayan exchange.

The relationship with Uruguay started in the early 80s when noted Uruguayan architect Armando Barbieri-Castagna became interested and involved with Tech's architecture and urban studies programs while his daughter was a student here. In 1988, a formal ceremony marked the official relationship as Barbieri presented a cultural token to the College of Architecture and Urban Studies—a wood carved bust by well-known Uruguayan sculptor Juan Pedro Morra. This bust is currently housed in the Art and Architecture Library in Cowgill Hall. In return, Barbieri accepted a pastel painting by CAUS Professor Dennis Kilper, which still hangs in the Court of Justice in Salto, Uruguay.

In 1998, Barbieri revisited Tech to celebrate a decade of cultural exchange between the

university and Uruguay by presenting a talk and slide presentation to members of the Henry H. Wiss Center for Theory and History of Art. While here, he met with university officials (with Architecture Professor Humberto Rodriguez-Camilloni as translator) to discuss future educational and cultural exchange possibilities.

In recent years, Rodriguez-Camilloni has been invited to lecture at ORT, and while there, met with administrators to continue discussions about the exchange possibility. "This university is very young, but is considerably similar to Tech. They are particularly interested in what we can offer their students, and vice versa," says Rodriguez-Camilloni. "They have a dynamic staff and are anxious to do innovative things. Our university is the kind of entity they want to become identified with."

For more information about ORT, visit their web site at <http://www.ort.edu.uy/> (in Spanish). VT students interested in participating in this program should contact Christine Jarchow, assistant director for education abroad, University Office of International Programs in 134 Burruss, jarchowc@vt.edu, 1-5888, or Rodriguez-Camilloni at hcami@vt.edu.

Tech's West End Market receives new national accolades

By Lori Greiner

Virginia Tech's West End Market dining center was recently honored with two national awards, the 2000 Innovative Achievement in Auxiliary Services award from the National Association of College Auxiliary Services (NACAS) and a Best Concepts award for Best Renovation from *Food Management* magazine.

The 2000 Innovative Achievement award recognizes outstanding development, implementation, and creative entrepreneurship of new and exciting programs in auxiliary services. Open to all 1,100 institutional members of NACAS, the contest is a competitive peer-recognition program that draws entries from universities throughout the United States.

Food Management's Best Concept Awards honor those readers who provide their clients with outstanding food and services. "West End Market is a genuine innovation in college food service, a groundbreaking concept realization that meets the challenges presented by the university, its students and the dining services

department itself for an eatery that provides freshness, ambience and variety in an innovative, cutting-edge setting," said *Food Management* magazine.

"These awards are an affirmation of our decision to look beyond the traditional university food-service program," said Rick Johnson, director of Culinary Services.

The West End Market's marketplace concept uses independent, freestanding kitchens as islands within the seating areas, similar to an open-air French market. Most food preparation and cooking takes place in front of the customer, communicating a high level of quality and freshness.

West End Market opened in January 1999. More than 4,000 students are served from 10:30 a.m. to 8 p.m. weekdays, exceeding initial expectations. More than 20 colleges, universities and contract food service organizations have come to Virginia Tech to specifically tour West End Market as well as the other dining centers.

PRESIDENTS'

Continued from 1

vide Virginians with the quality of higher education to which they are entitled.

On Dec. 18, 2000, the General Assembly's Joint Subcommittee on Higher Education Funding Policies reported the findings of its study of the operating budgets of the colleges. The presidents, as well as the faculties, staffs and students they represent, deeply appreciate the leadership and thoughtful analysis the members of the joint subcommittee demonstrated in developing a funding methodology for higher education. It is particularly encouraging that the members recognize that additional investment in higher education is necessary for the continued prosperity of Virginia.

Operating Budgets

The Joint Subcommittee's principal conclusion is that the operating budgets of our public colleges are under-funded by 10 percent or about \$200 million a year. The introduced budget does not address this serious funding inadequacy. In fact, it actually reduces the operating budgets by \$19 million with over \$7 million of this as an arbitrary reduction of student services and other institutional support. The remainder of the cut is based upon highly questionable estimates of potential cost savings to be realized by each institution. We fully understand that the immediate infusion of \$200 million to address funding inadequacy is not likely, given recent revenue forecasts and other commitments. We respectfully request that you begin to phase in the base-funding adjustment. Making an initial funding commitment of at least \$50 million this year, coupled with language establishing a goal of fully funding the plan, would signal the General Assembly's intent to make higher education a state priority. A phased approach would be similar to that taken with increasing faculty salaries to the 60th percentile of peer institutions over a period of years.

The introduced budget also does not provide the additional \$25.1 million for next year that the State Council of Higher Education calculates is needed for competitive faculty salaries at the 60th percentile of peer groups. Maintaining competitive salaries is critical for filling vacancies and positions in new fields, particularly the latest technologies. It is essential that

you continue to use the General Assembly's proven salary-calculation methodology. We urge the appropriation of the full \$25.1 million dollars for faculty salary increases next year.

In addition to not providing competitive faculty-salary increases, the introduced budget reduces the retirement benefits of faculty members who participate in a retirement program other than the Virginia Retirement System. The governor's recommendation is that the annual contribution rate be reduced from 10.4 to 9.24 percent. This abrupt change, made without a study of its ramifications for competing for the best faculty members, is a breach of the bond made with faculty members when they are hired. It is a change that affects most of the faculty members in our colleges. More than one-half of the faculty members in our four-year institutions and 28 percent in the community colleges are in optional retirement programs. The large effect of the change is illustrated by a faculty member who is 40 years of age and earns a salary of \$40,000. Assuming an average annual salary increase of four percent and earnings averaging eight percent a year, the loss in retirement benefits would accumulate to \$63,000 over the 25 years until he or she reaches 65.

Energy

The costs of utilities, especially natural gas, have skyrocketed in the past few months. Many schools are now paying 100 percent more for natural gas than they paid at this time last year. The costs of electricity and fuel oil have also increased significantly, and will continue to increase during the remainder of the year. Institutions cannot absorb these energy-cost increases within their current budgets. It is anticipated that the system will request approximately \$8 to \$10 million to address this totally unavoidable cost increase.

Student Aid

Our students appreciate and we welcome the additional \$5.8 million for student aid that the governor proposes. Coupled with the tuition freeze, this will further improve the affordability of Virginia's public colleges and universities.

We are also pleased that the Joint Subcommittee on Higher Education Policies intends to continue its important work and we hope that it will give a high priority to student

financial-aid issues. We cannot solve the problem by redefining aid to reduce the expense of providing adequate help to our students and families. The governor's proposal to meet "true need" adopts a definition of need that is inconsistent with the practice of any other state or the federal government. Money borrowed by students and their families cannot and should not be used to reduce real need and thus meet the artificial definition of need used in the governor's proposal.

As you know, all of us are concerned about the affordability of higher education and considerable progress has been made on this important issue. In the future, given the state's limited resources, it may be appropriate to return to the policy that students share to a modest extent in the increased cost of their education.

Capital Outlay

This past fall we outlined our capital-outlay needs for the next six years. They total \$2.1 billion for major renovations and new buildings. An additional \$275 million is needed over six years for repairs to existing buildings. The 2000-02 portions of these six-year totals are \$876 million for renovations and new buildings, and \$59.3 million for building repairs that are funded from maintenance-reserve appropriations. These large amounts are the result of a decade of inadequate funding. This is illustrated by the fact that \$1.1 of the \$2.1 billion is needed to renovate 195 buildings, whose average age is 48 years, and the current \$600-million backlog in deferred building repairs.

Only one-fifth, \$187 million, of the \$876 million needed in this biennium for new buildings and renovations is recommended by the governor. The introduced budget does include a significant increase of \$62 million for building repairs. This amount appears to satisfy the need for repair dollars, but it would only do so if we received full funding for renovations. Without renovation funding, obviously the funding requirement for repairs is much higher.

Conclusion

In summary, our review of the governor's budget and its underlying assumptions is discouraging to us, not just for this biennium, but for the foreseeable future. General Fund revenues are expected to grow 7 percent next year, close to the average for the past two decades.

Notwithstanding the expected growth in state resources for next year, the budget under review does not provide the "stable and predictable funding" recommended by the governor's commission. It proposes General Fund appropriation decreases of \$19 million for the operating budgets of public colleges and universities, beginning immediately. At the same time, it adds \$21.2 million and calls for their expenditure for faculty salary increases, growth in the number of students and other items. The net result is a \$2.2-million increase in the operating budgets for all colleges.

The promise we felt last year is confronted by the reality of the proposed budget and its implications for future state support. The most immediate reality is that the budget does not provide the funding needed to maintain competitive faculty salaries, nor does it adequately address our severe capital improvement needs. Additionally, for many institutions, the introduced bill actually reduces the operating dollars necessary to deliver our services. I hope we are wrong, but the conclusion we draw from the introduced budget is that Virginia has excellent public colleges and universities that it cannot adequately support.

We hasten to add that our institutions will survive; that is not the question. We assure you that we will continue to extend every effort to accomplish as much as possible with the resources provided by Virginians. To inform you of our individual resource requirements, each institution will continue to place its most immediate needs before you in the form of budget amendment requests.

But the reality is that our colleges and universities cannot provide, with their current level of resources, what you and all Virginians expect. You expect our institutions to provide excellence in comparison to other states and nations. You expect us to accept thousands more students as a result of growth in population and likely increases in the proportion of our citizens who want and need higher education. You expect our institutions to be in the forefront of developments in science and technology. We share each of these expectations. We respectfully submit, however, that these responsibilities can only be fully met with improved operating budgets and facilities.

EMPLOYMENT

CLASSIFIED POSITIONS

The following classified positions are currently available. More details of these positions, specific application procedures and position-closing dates may be found on the Personnel Services web site at <http://www.ps.vt.edu>. Available positions are also listed on the Job Line, a 24-hour recorded message service. For information on all job listings, call 1-5300. Some of the following positions include state benefits. Positions with numbers beginning with a "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

Administrative Assistant, 007719B, Pay Band 3, ECE/MPRG.

Administrative Assistant, 002811R, Pay Band 3, Executive Vice President.

Administrative Assistant, 007718B, Pay Band 3, Chemistry—Division of Polymer Chemistry.

Administrative Assistant, 001228R, Pay Band 3, Scholarships/Financial Aid.

Administrative Associate, 002202L, Pay Band 3, University Development.

Admissions Plans/Clearances Team Member, 001534R, Pay Band 3, Graduate School.

Assistant Counselor, 006557R, Pay Band 3, Scholarships/Financial Aid.

Athletic Eligibility Analyst, 001609R, Pay Band 3, University Registrar.

B and G Supervisor B, 001366G, Pay Band 4, Physical Plant.

Banquet Manager (Food Operations Manager Assistant), 001118G, Pay Band 3, DBHCC.

Budget Manager, 002127B, Pay Band 3, CIS.

Business Development Director, 007568T, Pay Band 5, ECE/MPRRG.

Computer Systems Engineer, 007691T, Pay Band 5, ESM.

Computer Systems Engineer, 001894T, Pay Band 5, CS.

Computer Systems Engineer, 006991J, Pay Band 5, RGS.

Computer Technician, 007712R, Pay Band 3, VBI.

Data Warehouse Architect, 006930L, Pay Band 5, ISC.

Database And Application Development Specialist, 007230R, Pay Band 5, RGS.

Desktop Support - Project Leader, 006772D, Pay Band 4, ITASM.

Editor/Communications Coordinator, 007681G, Pay Band 5, OIRD.

Electrician, 007565G, Pay Band 3, Physical Plant.

Electrician Supervisor, 001545G, Pay Band 4, Physical Plant.

Electronics Technician, 007656J, Pay Band 4, VTTI.

Enrollment Specialist, 001675B, Pay Band 3, Dean of Arts/Sciences.

Executive Chef, 000266H, Pay Band 4, RDP/Shultz Dining Center.

Fiscal Director, 007716A, Pay Band 5, CNS.

Fiscal Technician Senior, 004047B, Pay Band 3, Chem E.

Six full-time food-service positions available.

Honor System Operations Manager, 007648R, Pay Band 3, Undergraduate Honor System - Provost.

Housekeeping Lead Worker, 000732C, Pay Band 1, Physical Plant/Housekeeping.

Housekeeping Supervisor, 000824H, Pay Band 2, RDP.

Housekeeping Worker, 007263J, Pay Band 1, Recreational Sports.

Housekeeping Worker, 001515H, Pay Band 1, RDP.

Housekeeping Worker, 001631G, Pay Band 1, DBHCC.

Housekeeping Worker Senior, 002745H, Pay Band 1, RDP.

Housekeeping Worker Senior, 006926H, Pay Band 1, RDP.

Human Resource Specialist, 002499R, Pay Band

4, Personnel Services.

Interpreter for Deaf, 007472J, Pay Band 3, Dean of Students.

Lab Instrument Maker, 001507B, Pay Band 4, AOE.

Lab Specialist, 007706B, Pay Band 3, Chemistry.

Lab Specialist, 001972M, Pay Band 3, CVM/MDL—Academic Affairs.

Lab Specialist, 000799B, Pay Band 3, Biology.

Laboratory Specialist, 007480J, Pay Band 3, HNF.

Laboratory Specialist, 007707B, Pay Band 3, CE.

Large Animal Supervisor, 006998M, Pay Band 4, Veterinary Teaching Hospital.

Manager of Development Communications, 007400D, Pay Band 5, University Development.

Operating Systems Analyst, 000871L, Pay Band 5, Computing Center.

Operations Assistant, 000704H, Pay Band 1, RDP/Deet's Place.

Parking Enforcement Officer, 007221R, Pay Band 1, Parking Services.

Personnel Coordinator, 007711R, Pay Band 3, VBI.

Program Assistant, 006900M, Pay Band 2, CSES.

Program Support Technician, 001585B, Pay Band 3, Geography.

Program Support Technician, 001522B, Pay Band 3, Political Science.

Public Relations Coordinator, 007717B, Pay Band 3, Chemistry—Division of Polymer Chemistry.

Public Relations Coordinator, 000413R, Pay Band 5, Undergraduate Admissions.

Public Relations Specialist, 006837R, Pay Band 4, WSFP.

Research Engineer, 007634R, Pay Band 4, VCCER.

Secretary/Receptionist, 002977F, Pay Band 2, Controller's Office.

Security Lead Guard (Parking Enforcement Off.), W020119G, Pay Band 1, Parking Services.

Shop Leader, 000567H, Pay Band 1, Residential and Dining Programs/Cochrane - West End Market.

Shopleader/Cashier, 000405H, Pay Band 1, RDP/Owens Food Court.

Software Developer, 007690T, Pay Band 5, ESM.

Sous Chef, 000940H, Pay Band 3, RDP/Southgate Bake Shop.

Special Event And Hearing Appeals Coordinator, 007710R, Pay Band 2, Parking Services.

Special Events Assistant, 006999D, Pay Band 3, VP for Development and University Relations.

Special Projects/Utilities Crew, 000216H, Pay Band 1, RD.

Storekeeper, 007050H, Pay Band 2, RDP/Facilities and Services.

Surgical Ward Technician, 002637M, Pay Band 4, Veterinary Teaching Hospital.

Telecommunications Analyst, 000157A, Pay Band 3, CNS.

Telecommunications Network Technician, 006965A, Pay Band 3, CNS.

PART TIME

Animal Care Tech B, W022914J, Pay Band 2, CVM.

Animal Care Technician, W020556M, Pay Band 2, CVM.

Animal Care Technician A, W022675M, Pay Band 1, Veterinary Teaching Hospital.

Animal Care Technician A, W022563M, Pay Band 1, Veterinary Teaching Hospital.

Animal Care Technician A, W022155M, Pay Band 1, Veterinary Teaching Hospital.

Application Processor, W022876R, Pay Band 3, Undergraduate Admissions.

Banner Desktop Support Technician, W022069D, Pay Band 3, ITASM.

Banquet/Setup (Foa-b), W022143G, Pay Band 1, DBHCC.

Computer Network Support Tech, W023174G, Pay Band 4, Police.

Computer Support Technician, W022995D, Pay Band 3, Educational Technologies.

Course Development Specialist, 007708M, Pay Band 4, Entomology.

Data Entry Operator, W022875R, Pay Band 2, Undergraduate Admissions.

Delivery Driver, W022337A, Pay Band 1, Printing Services.

Executive Secretary, 004557R, Pay Band 3, CNR.

Field Technician Assistant (Telecommunications), W023203A, Pay Band 2, CNS.

Fiscal Assistant, W023128M, Pay Band 2, APS.

Food Operations Assistant A (Dishwasher), W023035G, Pay Band 1, DBHCC.

One part-time food-service position available.

Housekeeping Worker, W020214J, Pay Band 1, Health Center.

Housekeeping Worker, W020574G, Pay Band 1, DBHCC.

Medical Illustrator, W022289M, Pay Band 4, CVM.

Office Assistant, W022596H, Pay Band 2, RDP.

Office Services Assistant, W022114R, Pay Band 2, RMS.

Office Services Assistant, W022062R, Pay Band 2, Parking Services.

Office Services Specialist, W023188R, Pay Band 2, Provost's Office.

Office Services Specialist, W022260M, Pay Band 2, Veterinary Teaching Hospital.

Parking Enforcement Officer, W020891R, Pay Band 1, Parking Services.

Payroll Technician, W023145M, Pay Band 2, Veterinary Teaching Hospital.

Pharmacist (Relief), W022501M, Pay Band 6, Veterinary Teaching Hospital.

Radiologic Technologist, W022238J, Pay Band 3, Health Center.

Radiologic Technologist, W022412M, Pay Band 3, Veterinary Teaching Hospital.

Records Clerk, W020548R, Pay Band 2, University Registrar.

Small Animal ICU Technician, W020101M, Pay Band 4, Veterinary Teaching Hospital.

Storekeeper, W022291M, Pay Band 2, Veterinary Teaching Hospital.

Switchboard Operator, W022101A, Pay Band 2, CNS.

Visitor Center Receptionist, W022957D, Pay Band 2, University Relations.

UNIVERSITY ONLY

Police Sergeant, U001171G, Pay Band 4, Police Department.

Program Support Technician, U005564M, Pay Band 3, VCE—Patrick County.

Trades Utilities Master Mechanic, U007009G, Pay Band 4, Physical Plant.

OFF CAMPUS

Area Efnep/Scnep Program Support Technician, 006950M, Pay Band 3, VCE—Northeast District.

Enrollment Program Assistant, 002091J, Pay Band 3, Northern Virginia Center.

Office Services Assistant, 007233J, Pay Band 2, HNF.

Office Services Assistant, 006816J, Pay Band 2, HNF.

Office Services Assistant, 007330J, Pay Band 2, HNF.

Radio Announcer, W020800L, Pay Band 3, University Relations/WVTF Radio.

Research Specialist, 007700M, Pay Band 3, CSES/Warsaw.

Underwriting Account Executive, 001963L, Pay Band 3, WVTF.

FACULTY POSITIONS

INSTRUCTIONAL

Music. Choral Music Director. Contact: Jay Crone, 241 Squires (0240). Position open until filled.

NON-INSTRUCTIONAL

Virginia Bioinformatics Institute. Research Associate/Genomics Information Specialist. Contact: Jennifer Weller, 1750 Kraft Dr., Suite 1100, Virginia Tech, Blacksburg, VA 24061. Position open until filled.

Research/Graduate Studies. Associate Provost for Research/Interdisciplinary Programs. Contact: Roger Avery, 209 Sandy (0325). Review begins Feb. 15.

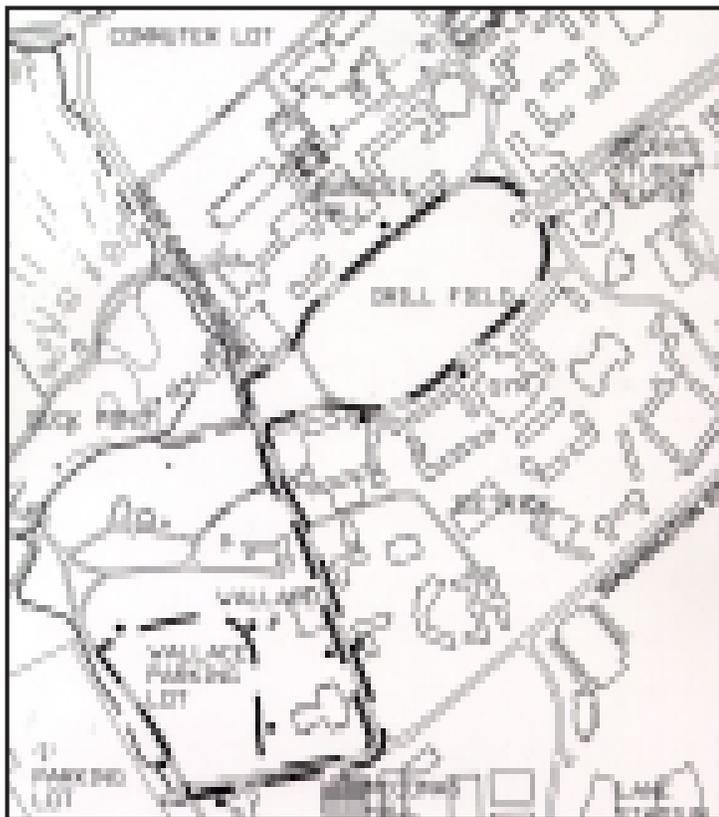
Conservation Management Institute. Virginia Fish/Wildlife Information Service On-line Coordinator. Contact: Virginia Department of Game and Inland Fisheries, 4010 West Broad St., Box 11104, Richmond, VA 23230-1104, Attn: K. Quindlen. Deadline is Feb. 15.

Hokie Express available for faculty, staff members

The Hokie Express is now available for use by faculty and staff members.

The bus is on a 10-minute schedule from Burruss to Litton Reaves and back. The service is available from 7:30 a.m. to 6 p.m.

To use the Hokie Express, show the driver a Hokie Passport. The route map is published below. For more information, call Blacksburg Transit at 961-1185.



ASPIRES

Continued from 1

derstanding immune responses in chickens.

3. Timothy J. Larson, David Popham, and Robert H. White, biochemistry (BIOC) and biology (BIOL), to study trafficking of sulfur in bacteria.

4. Brian Storrie, Cynthia Denbow, John McDowell, Brenda S. J. Winkel, and Edward J. Wojcik, BIOC, plant pathology, physiology and weed science (PPWS), and BIOL, for updating confocal microscopy facilities to track protein machines.

5. Lynn S. Adler, Erik T. Nilsen, and Robert H. Jones, BIOL, for improving research facilities for plant ecology research.

6. Richard A. Walker, David R. Bevan, Winkel, and Cynthia Gibas, BIOL and BIOC, for a computer workstation for protein structure and bioinformatics research.

7. Jill Sible, Robin Andrews, Jack Cranford, Klaus D. Elgert, Robert Lickliter, Anne McNabb, and Bruce Turner, BIOL and psychology (PSYC), for improving institutional animal resources.

8. Chenming Zhang, biological systems engineering, for a protein separation laboratory.

9. Thomas L. Brandon, George Filz, and Joe Dove, civil and environmental engineering (CEE), for the research infrastructure for a geotechnical engineering laboratory.

10. Nancy G. Love, Andrea Dietrich, Marc Edwards, Adil Godrej, Tom Grizzard, John T. Novak, and Madeline Schreiber, CEE and geology (GEOL), for acquisition of a gas chromatograph with both a mass spectrometer and a flame photometric detector, in support of water

quality research.

11. W. Samuel Easterling and J. Daniel Dolan, CEE and forest products, for development of a truss-testing frame.

12. Paul R. Carlier, chemistry (CHEM), for a laboratory for the asymmetric synthesis of drug precursors and drug candidates.

13. Alan R. Esker, CHEM, for expanding the capabilities for studying and using surfactant order at liquid/vapor interfaces.

14. T. Daniel Crawford, CHEM, for the Virginia Tech quantum chemical research facility.

15. Harry W. Gibson, David R. Bevan, and Nancy G. Love, CHEM, BIOC, and CEE, to establish a research program for developing biomimetic sensors using molecularly imprinted polymers (MIPs).

16. M.A. Saghai Maroof, crop and soil environmental sciences (CSES), for development of a DNA chip or micro-array technology for rice as a model system.

17. John Fike, Ruth Alscher, Christ Teutsch, Joe Fontenot, and A. O. Abaye, CSES, PPWS, and APSC, to develop turf and forage programs.

18. Wayne A. Scales, electrical and computer engineering (ECPE), for a global positioning system (GPS) test facility.

19. Kusum Singh, educational leadership and policy studies (ELPS), for a study of classroom factors and science learning of high-school students.

20. Richard D. Fell, John B. Phillips, Scott M. Salom, and Thomas Jensen, entomology and BIOL, for quantitative measurements of color.

21. S.B. Phillips and G.L. Mullins, Eastern Shore Agricultural Research and Extension

Innovative games keep young girls interested in math, science disciplines

By Sarah Newbill

Studies show that girls tend to stay away from or drop out of science and engineering studies at the college level. While studying engineering at Stanford, Mitzi Vernon, assistant professor in the department of architecture, kept asking herself "why is engineering and science such a struggle for females?"

Out of this question, she has been developing an answer through tangible learning tools to help others at an earlier age feel more comfortable and familiar with tough science concepts.

With a \$95,000 grant from the National Science Foundation (plus a recently awarded supplement of \$9,000), Vernon hopes to capture

of the girls were consistently socially oriented (2) the tendency of girls is to want things to be tangible, collectible, and communal (3) girls are specifically inclined to create character and story line in their play activity (4) there is a correlation between the lack of interest in computer games and their general feelings about technology.

The interCONNECTIONS™ books are concrete demonstrations of less concrete ideas, such as magnetic fields, electricity, light, and sound. The books are designed for girls in that they bring intangible concepts to the physical world through the metaphors that girls are most engaged in (e.g., their faces, each other). A significant body of research shows that women

Each book has one or two special boards that have mechanical and interactive mechanisms embedded in them; this is unlike the popular 'pop-up' construct.

the attention of girls ages 8-11, and maintain their interest in math and science.

She is developing interCONNECTIONS™, a series of book-like modular toys/board games embedded with mechanical mechanisms. The "books" can be physically connected like a three-dimensional puzzle, to illustrate how specific concepts like atomic structure, the Pythagorean Theorem, music, color, and magnetic fields are interconnected to each other.

The "book" series is a result of the belief that education is a non-flat thinking adventure, especially for girls. With sets of pages that are physically interactive, books are a metaphor for how girls learn and think, rather than two-dimensional entities bound on the left. Key findings indicated to Vernon that (1) the interests

and girls have a more symbolic and interpersonal approach to learning.

Each book has one or two special boards that have mechanical and interactive mechanisms embedded in them; this is unlike the popular "pop-up" construct. The interCONNECTIONS™ books have a layered system of components in between boards and are activated by levers and dials.

Vernon will be working with engineers from Lord Corporation using their magnetorheological fluid technology, and consultants from Design Research Associates, Inc. on the mechanics and usability testing of the "books." *Phoebe's Field* is the first book in the series, which will be followed by *The Universe in My Face and My Horizon*. All will be tactile, visual, colorful, and appealing to the senses.

Center (AREC) and CSES, for flow-injection analysis for enhanced-nutrient-management research and graduate student education.

22. Jim Berkson and Stephen A. Smith, forestry and wildlife sciences (FWS) and biomedical science and pathobiology, for establishment of a horseshoe crab research center.

23. Tammy J. Newcomb, Douglas C. Novinger, and Panos Diplas, FWS and CEE, for hydroacoustic and acoustic Doppler technology for characterizing aquatic habitat.

24. Madeline E. Schreiber, Christopher J. Tadamier, and Matthew J. Eick, GEOL and CSES, for the design and development of controlled-atmosphere chemostat bioreactors.

25. Shannon Jarrott and Keying Ye, human development, for a validity test of dementia-care mapping.

26. Richard E. Veilleux, horticulture, for genomic analysis of transgenic potato.

27. Ken McCleary, Donald Drapeau, Peter J. DePasquale, John A.N. Lee, and John A. Williams, hospitality and tourism management, theatre arts, and computer science, for hospitality industry training systems.

28. Thurmon E. Lockhart, industrial and systems engineering, for analysis of 3-D posture and motion during slip-and-fall accidents.

29. Donald J. Leo, Tim Long, Harry Dankowicz, and Laura Wojcik, mechanical engineering (ME), CHEM, and engineering science and mechanics (ESM), for a high-speed digital imaging system for large-deformation analysis of ionic polymer systems.

30. Marty Johnson, Chris Fuller, and Ron Kriz, ME and ESM, for development of a virtual acoustic system to enhance the CAVE™ virtual environment.

31. Stefan M. Duma and Ian P. Herring,

ME and small-animal clinical science, for an eye-injury research program.

32. Guo-Quan Lu, Robert W. Hendricks, D.J. van Wyk, and Carlos Sunchital, material science and engineering (MSE) and ECPE, for renovation and upgrade of the electronic packaging research laboratory.

33. Louis J. Guido, MSE and ECPE, for instrumentation for measuring the electronic properties of wide bandgap semiconductor materials and devices.

34. Edward Weisband and Alnoor Ibrahim, political science and urban affairs and planning (UAP), for a Center for Public Accountability in Social, Ethical, and Environmental Auditing and Reporting.

35. Richard A. Winett, Janet R. Wojcik, William G. Herbert, and Sharon M. Nickols-Richardson, PSYC and human nutrition, foods, and exercise, for an integrative approach for effective and efficient exercise training: Experimental studies to develop a National Institutes of Health grant proposal—part 2.

36. Chris Teutsch, John Fike, Carol Wilkinson, James Burger, and David Starnier, the Southern Piedmont AREC, CSES, forestry, and the Northern Piedmont AREC, for a near-infrared reflectance spectroscopy for forage-quality analysis.

37. Ted Koebel, James Wolf, James Bohland, Maria Papadakis, and Jesse Richardson, UAP and the School of Public and International Affairs, for development and implementation of an urban-research agenda for the Washington, D.C., metropolitan area.

38. Charles Frazier, Fred Kamke, and Wolfgang Glasser, forest products, for a new equipment package to support adhesion research.

MEMORIAL NOTICE

Ronald T. Miller

There will be a memorial service today at 4 p.m. in Memorial Chapel for Ronald T. Miller, a freshman in the College of Engineering who died recently.

CVC WINNER



Teresa Wright

Teresa Wright from the office of Budget and Financial Planning won the final prize in this year's CVC drawings—a weekend night plus breakfast for two at the Hotel Roanoke.

Wright's name was drawn from all who submitted pledge cards throughout the campaign. Virginia Tech raised \$222,262, with 17 percent of employees participating.

LETTER

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forum faculty members have for shared governance;

Has direct and regular access to the president, provost, and the Board of Visitors; Directly represents faculty needs to members of the General Assembly and to the news media; Provides a peer structure for counseling, intervention, and self-policing through the critical work of its Ethics Committee, Commission on Reconciliation, and Faculty Review Committee;

Makes or nominates appointments to all university committees and commissions.

On February 1, you will find a ballot with voting instructions in your faculty mailbox. Ballots must be submitted by 5 p.m. on Friday, Feb. 9, 2001. Copies of the constitution will be available with your senators and/or with your department administrative assistants. We will also distribute electronic versions of the constitution, and you may visit the Faculty Senate web site at www.facultysenate.vt.edu and view the constitution, bylaws and governance chart. The following is a list of senate cabinet members and other senators who will serve as contact people for collecting ballots:

Agriculture and Life Sciences: Leon Geyer (geyer@vt.edu 1-4528); Joe Marcy (jmarcy@vt.edu 1-7850)

Architecture and Urban Studies: Mitzi Vernon (vernon@vt.edu 1-2763), Diane Zahm (dzahm@vt.edu 1-7503), Annette Burr (apburr@vt.edu 1-3194).

Arts and Sciences: Edd Sewell (esewell@vt.edu 1-9827), Richard Ashley (ashleyr@vt.edu 1-6220), Bernice Hausman (bhausman@vt.edu 1-5076), Klaus Elgert (kdelgert@vt.edu), Susan Anderson (anderson@math.vt.edu 1-8041)

Business: Joe Sirgy (sirgy@vt.edu 1-

University hosts international natural-resources meeting

By Jeanne M. Garon

Thirty-six researchers involved in global sustainable agriculture and natural-resource management convened in Blacksburg January 3-5 to set the international agenda for communities and institutions involved in natural-resource decision-making.

The annual meeting of the Sustainable Agriculture and Natural Resource Management Collaborative Research Support Program (SANREM CRSP), hosted by the Office of International Research and Development (OIRD), drew representatives from international universities and research institutes, non-governmental organizations, the United States Agency for International Development (USAID), and four departments in Virginia Tech's colleges of Agriculture and Life Sciences and Arts and Sciences. Participants developed several new initiatives, including a plan to incorporate more involvement from the private sector and new methods for documenting landscapes and lifescapes.

Funded by USAID's Global Bureau, the SANREM CRSP began as a five-year research, training, and information-exchange program and is now midway through its second five-year phase. Its goal is to promote global availability of food, economic growth, and conservation of natural resources by improving decision-makers' access to relevant data and information, by providing tools and methods for analyzing data, and by building local capacity through training.

SANREM benefits all who make decisions about natural resources, from farmers, municipal leaders, and provincial planners to national policy analysts, regional-network coordinators, and global-research program man-

agers. The program focuses most of its attention on Southeast Asia, the Andes, and West Africa.

Tech's OIRD manages the West African program with participation from Washington State University, the University of Georgia, the Center for Holistic Management, the *Institut d'Economie Rurale* (Mali), and CARE-Mali. Michael Bertelsen and Keith Moore of OIRD serve as technical project coordinator and co-coordinator, respectively, while S.K. De Datta, director of OIRD, serves as the institutional representative for Virginia Tech and vice chair of the SANREM CRSP board.

The work in West Africa is centered in Northern Mali, where faculty members from Tech and other institutions are investigating conflict- and natural-resource management

problems associated with the agricultural and pastoral systems of the region. The project offers graduate research assistantships to domestic as well as international students.

Interim Provost James Bohland, who attended a reception honoring the conference participants, called Tech's participation "a meaningful outreach opportunity" for the university. "Projects like SANREM CRSP," he said, "allow us to use the expertise of our faculty members and graduate students to find solutions to complex, international, real-world problems that impact individual lives as well as the overall well-being of the planet. Moreover, it demonstrates the importance of having an international focus in achieving our goal of increasing research productivity." OIRD is part of University Outreach.

STAFF SENATE

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every council, committee, and commission that makes up Tech's governance system keeps everyone accurately informed and reduces unsubstantiated rumors.

"Every senator serves as part of the shared governance system," Jones said. "Now that the issues are being openly discussed, we know exactly what's happening. We know if there's going to be an increase in parking fees because we have people on the Parking Committee, and we pass that information down." In addition to keeping their staff associations better informed about the university's agenda, staff senators keep the administration better informed about individual staff members' perspectives.

Since its inception, the Staff Senate has had a significant impact on the university through numerous initiatives, including many that have affected not only the staff, but also the university community as a whole. Coliseum Drive, for example, may have been permanently closed if not for the intervention of the Staff Senate. The recently created scholarship fund for faculty and staff spouses and dependents resulted from the efforts of both the Staff and Faculty Senates. And the Hokie Express, recently established through the Office of Transportation, was specifically requested by the Staff Senate. Other issues handled by the Staff Senate over the years have included the smoking policy, handicapped accessibility, clean-up after games, and snow removal on campus.

Current issues on the Staff Senate's agenda include dealing with parking in the future, defining how staff members (particularly research staff members) fit into

the university's top-30 research initiative, protecting wage employees who do not receive full-time benefits, and providing continuing education opportunities to help employees advance within the new pay plan.

Another on-going priority is making sure that all staff members understand how and where they fit into the Staff Senate structure so they can fully participate. Ideally, every college and vice presidential area should have representation through a staff senator. However, as there are shifts in university administration and personnel changes within departments, groups can lose representation over time.

"We want to make sure that everyone is represented and that they know who represents them. If they don't have representation, or if they want to volunteer to be a representative, they should contact us for help," Jones said.

The Staff Senate meets once a month, usually on the third Thursday of the month, at noon. The next meeting is Thursday, Feb. 15 in 1810 Litton-Reaves. For more information, visit the Staff Senate web site at <http://www.staffsenate.vt.edu/>, or contact Delbert Jones at 1-3718 or dejones@vt.edu.

PROVOST

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Eyre said the committee is working with a highly regarded search firm, Baker, Parker and Associates, of Atlanta, which has assisted in searches for leading institutions across the country.

After displaying the text of the advertisement for the position, Eyre commented on the committee's desire to find an individual with a record of exceptional scholarly activity combined with significant administrative leadership. General discussion followed, with members of the audience offering comments seconding the importance of identifying candidates with a high level of administrative leadership and with a record of skillfully overseeing significant change, given President Charles Steger's goal of attaining top-30 status within the decade. Other comments included the importance of finding a dynamic leader who has prior experience at a top-30 institution; the importance of a record of achieving diversity in faculty hiring; and the importance of maintaining a healthy balance between technology and other elements of a comprehensive institution.

Those who wish to make additional comment to the committee may contact Eyre at cvmpxe@vt.edu, or Carole Nickerson at cnickers@vt.edu.

5110), Ruth Smith (ruth@vt.edu 1-5062)

Human Resources and Education: JoAnn Emmel (jemmel@vt.edu 1-9259), Ruby Cox (rubicox@vt.edu 1-7156)

Engineering: Pat Devens (pdevens@vt.edu 1-9538), Barry Crittenden (bcritten@vt.edu 1-9536)

Extension: Barbara Board (board@vt.edu 1-9442), Mike Lambur (lamburmt@vt.edu 1-9423)

Library: Ed Lener (lener@vt.edu 1-9249)

Natural Resources: Don Orth (dorth@vt.edu 1-5573), Mark White (mwhite@vt.edu 1-7734)

Veterinary Medicine: Jeryl Jones (jcjones@vt.edu 1-2735), Tom Manning (manningt@vt.edu 1-5694), Anne Zajac (azajac@vt.edu 1-7017)

This is your constitution. Please vote.

Sincerely,

Mitzi R. Vernon, president
Faculty Senate

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Virginia Tech