

SPECTRUM

Virginia
Tech
VIRGINIA POLYTECHNIC INSTITUTE AND STATE UNIVERSITY

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TODAY'S EDITION

See page 3 for
information on
patent recipients.

State's first Internet2 studio opens

By David Nutter

Donald Upson, Virginia's secretary of technology, and Paul Torgersen, the president of Virginia Tech, unveiled Virginia's first Internet2 Technology Studio at a news conference last week in Richmond.

The studio, which uses the most up-to-date equipment and technology, provides users with the most advanced applications available on the Internet. At the studio, users can see broadcast-quality video over the Internet. This technology can also be used to provide video on demand and virtual-reality technology over the Internet.

"This technology will have important applications for education, business and government," said Internet2 Studio Director Patricia Jackson. "That is why the studio is open to the public, so they can come see and use it."

Jackson said Internet2 is working to enable applications, such as tele-medicine, digital libraries and virtual laboratories that are not possible with the technology underlying today's Internet.

Proponents of the Internet hope that early adoption of advanced-communications technologies will provide a competitive edge for Virginia businesses.

Jackson said once people begin to experience the potential of these technologies, "they will create their own applications...applications that today we



At a news conference in Richmond, state Secretary of Technology Donald Upson, left, and President Paul Torgersen announced the opening of the Internet2 Technology Studio. Robert Woltz, vice president for external affairs, right, represented Internet2 corporate partner Bell Atlantic--Virginia.

cannot even envision. The studio will be a catalyst for entrepreneur activity that will open the door to new businesses, just as the current Internet has done."

Torgersen said the university took the lead in creating the studio because the university "initiated the establishment of current-generation Internet service in Virginia and the university

created Net.Work.Virginia, which today provides the Internet2 infrastructure for the state."

The studio, which is located at 11 South 12th Street in Richmond, will be open to the public free of charge from 10 a.m. to 2 p.m. Monday through Friday. Corporate groups

(See STATE'S on 4)

New commandant named

By Clara B. Cox

A retired Air Force major general whose last assignment was vice commander of the 21st Air Force Headquarters at McGuire AFB in New Jersey and who now heads operations for the U.S. Nursing Corporation in Denver has been named Virginia Tech's new commandant of cadets, effective in July.

"Major General Jerrold P. Allen brings a wealth of military experiences to Virginia Tech. He is a perfect match for where the Corps is now and where we want it to go in the future. His leadership will put us in an excellent position to build on the progress made by the retiring commandant, General Stan Musser, in developing the Corps," said Landrum L. Cross, vice president for Student Affairs, in announcing the appointment.

"I am excited about this wonderful opportunity at Virginia Tech, and I look forward to helping develop leaders dedicated to serving our nation," Allen said.

In addition to his last assignment, Allen's military duties have included serving as plans and policy director for European Command Headquarters in Stuttgart, Germany; commander of the Seventh Wing in

(See COMMANDANT on 8)

Public Service Programs awarded development grants

By Catherine Doss

Two grants awarded Virginia Tech's Public Service Programs (PSP) will assist regional and state businesses develop their export-trade activities.

The first grant of \$30,000, awarded by the Appalachian Regional Commission, will be used to help increase exports from Appalachia to Canada. The money will support participation of small- to medium-size manufacturers and service providers in the U.S. Department of Commerce's sponsored trade show/matchmaking event (RepCan) in Toronto next month. RepCan consists of two days of matchmaking services, booth space, meeting with qualified potential business partners, a virtual trade show, an extensive country-wide promotional campaign, and other business-support services. Participants will also take part in an educational event focusing on Canadian custom clearance issues called Can-Do, and additional business meetings in Montreal.

Canada is Virginia's largest trading partner, buying \$1.54 billion in Virginia goods last year. This volume of trade has increased 50 percent since 1993. Major export industries

(See PUBLIC SERVICE on 4)

Center's study finds high housing costs

By Sandy Broughton

The constant stream of economic good news the past few years may not be as bright as it seems, according to a new study by the Center for Housing Research at Virginia Tech. The findings indicate that low-income families face extremely high housing-rental costs—in most Virginia jurisdictions exceeding 30 percent of their income.

On average, low-income families would have to spend about half of their income to rent a decent, modest apartment in Virginia. Some—especially low-income residents in the Eastern Shore/Great Neck area and in south-central Virginia—would pay in excess of 70 percent of their income for a standard quality unit, forcing many to live in crowded or sub-standard housing.

"The findings are surprising because it has been a strong economy for the middle and upper classes, and it might appear that everyone is doing well," said C. Theodore Koebel, director of the Virginia Center for Housing Research at Virginia Tech. "This is the forgotten portion of our society." Similar data from the Department of Housing and Urban Development indicate this is a nation-wide trend, and that fewer affordable housing units are available in all states.

The findings of the Virginia Tech Center for Housing Research are based on its Virginia Rent Burden Index, which was developed to understand relative housing needs in localities

across the state. It is a unique study in that, by converting rental costs to percentage of income for low-income families, it enables researchers to develop comparisons over time and between localities.

Among the study's findings:

Even though 70 percent of Virginians now own their own homes, affordable housing has not increased across the income range. While the rent burden index for median-income families decreased slightly from 15.6 percent in 1989 to 15.2 percent in 1996, the rent burden index for low-income families increased from 42.0 percent to 51.2 percent.

Seventeen Virginia localities saw their rent burden indexes more than double from 1989 to 1996.

More than 30 localities have rent burdens for a standard quality unit that exceed 70 percent of income.

Rental costs for a standard quality unit exceed 30 percent of income for low-income families in 131 of 135 jurisdictions in Virginia.

On average, low-income families pay about half of their income to rent a decent but modest apartment in Virginia.

Virginia localities with the highest rent burdens include Petersburg, Accomack, Norfolk, and Portsmouth. Virginia localities with the lowest rent burdens include Manassas, Fairfax, Chesterfield, and Loudon.

Koebel says the alarming implication of the study is that the distance between the

"haves" and the "have nots" is widening—dangerously. "Housing is so fundamental to everyone. There is no single symbol of American success as globally recognized as the quality of housing we occupy. The low-income families in this study [the bottom 30 percent in each jurisdiction] are primarily working poor with earned income. We are kidding ourselves if we think this disparity won't cause additional societal problems."

The full study, *Losing Ground in Virginia: The Inaffordability of Rental Housing for Low-Income Families in the 1990s*, can be accessed through the Internet at www.arch.vt.edu/vchr/vchr.html and includes maps, graphs, tables, and references. For more information about the study or to obtain a copy of the research, contact the Center for Housing Research at 1-3993. Lydeana H. Martin, a graduate student in the department of Urban Affairs and Planning in the College of Architecture and Urban Studies at Virginia Tech, was co-author of the study.

Koebel will be publicly presenting the results of the study October 13 at a conference sponsored by the Federal Reserve Bank in Richmond.

The Center for Housing Research at Virginia Tech is a university-wide center established by the General Assembly in 1989. Koebel is a professor of housing and urban planning in the College of Architecture and Urban Studies.

NEWSMAKERS

Virginia Tech faculty and staff members and students are often the subject of significant national and state-wide news coverage. To better inform the university community about these accomplishments, the Office of University Relations has compiled this monthly report. This report excludes coverage in the Roanoke news-media market. For more information about the articles mentioned, call Julie Kane, university public-relations specialist, at 1-9934, or contact your college public-relations office.

Los Angeles Times (January 11): **Christopher Neck**, associate professor of management, was quoted in a story, "Zen at work," about the problems that perfectionists can cause themselves and their co-workers.

Ticker (February 1999): **E. Thomas Garman**, fellow of the Center for Organizational and Technological Advancement and professor, personal finance employee education, discussed personal finance employee education (PFEE) in a column called "Face Value."

The Washington Post (February 13): **Gene Seago**, accounting professor, was quoted in the story, "Investor's luck rubs off on local government," about state and county governments' record surpluses fueled by the stock market boom, which has resulted in higher revenue from capital gains taxes.

Employment Relations Today (Winter 1999): **E. Thomas Garman** was quoted in article about education and incentives to improve employees' financial lifestyles.

Kitchen and Bath Design News (March issue): **Rebecca Lovingood**, head of the Department of New Environments, was quoted at length during a tour she gave through the Real Life Kitchen Center. The article was called "Teaching Lab's Kitchens Mirror Real Life."

Richmond Times-Dispatch (March 29): **Richard Wokutch**, management professor, and **Christopher Neck**, associate professor of management, were quoted in the business section cover story, "Living a lie," that examined whether lying has become more acceptable in business today.

The Montreal Gazette (April 3): **Don Chance**, finance professor, was quoted in a story, "The Chicago option," about the fierce competition being faced by the Montreal Exchange, which aspires to turn Montreal into a derivatives trading capital like Chicago.

Virginia Business Observer (April 12): **Janine Hiller**, business law professor, was quoted in the story, "The card that knows everything," about a card with a microchip, an advanced version of the traditional magnetic-stripe card. The "smart card" is currently used primarily in the military but has potential applications in the medical, security, and retail industries.

The Virginian-Pilot (April 18): **George Morgan**, finance professor, was quoted in a story, "Mergermergermerger: An unprecedented number of companies are consolidating," about the record value of mergers and acquisitions last year, their causes, and the impact on employees.

Washington Post (April 19): **E. Thomas Garman** was quoted in an article "Taking Care of Our People in Uniform." He commented that about one in five military personnel are deeply and disastrously in debt.

HRToday (April 21): In an article "Is Your 401(k) Education Just OK?" **E. Thomas Garman** talked about the importance of 401(k) education as the single most important benefit for American workers.

Washington Post, Richmond Times Dispatch, BBC, ABC, Chronicle of Higher Education, Nature (April 22): Articles about Biology Professor **Stephen Schaeckler**'s research about the oldest tree (*Archaeopteris*) has appeared in these and several other media outlets.

USA Today (April 23): In a section called "The Options Game," **E. Thomas Garman** made remarks about corporate boards, stock options and shareholders.

Washington Post (April 29): **Malcolm McPherson**, associate dean for research and graduate studies in the College of Engineering, was quoted in a story "Area Tech Education Heats Up by a Few Degrees." McPherson talks about the increase in students enrolled in the high-tech areas of the university.

Essence (May 1999): The magazine featured a long conversation, with photos, between Queen Latifah and Virginia Tech poet **Nikki Giovanni**.

(Oakland, CA) **Tribune** (May 1): **Giovanni** and her latest poetry collection, *Blues for All the Changes* were featured.

Blue Ridge Business Journal (May 1999): Dan Smith's editorial featured research and comments by **Walter Wierwille**, professor emeritus of industrial and systems engineering and leader of the human factors and safety group at the Center for Transportation Research. The editorial's subject was the

proliferation of cell phones and other gadgets in automobiles and the dangers they pose by diverting drivers' attention from the road.

Los Angeles Times (May 9): **Nikki Giovanni**'s poetry book *Blues for All the Changes* was listed as number four on its bestsellers list.

(**Virginia Public Radio**) **With Good Reason** (week of May 10): Educational Leadership and Policy Studies Professor **Lawrence Cross** discussed Virginia's Standards of Learning testing efforts.

Virginia News Network (May 12): Fisheries and Wildlife Science Professor and Extension Specialist **Jim Parkhurst** discussed deer populations in Virginia.

San Francisco Chronicle (May 12): **Steve Manaster**, director of the financial-risk-management center, was quoted in a story about the Pacific exchange's proposed joint venture with a New York broker to launch a computer-based options trading system.

Virginia News Network (May 14): Alumni Distinguished Professor of History **James Robertson Jr.**, discussed Virginia Tech's proposed Virginia Center for Civil War Studies.

Washington Post (May 17): **Nikki Giovanni** was prominently featured in a story about "Bring in Da Slam," the third annual poetry slam and "rent party" held at Borders in D.C. to benefit the Youth Poetry Slam League. The article said the young poets "came to listen to spoken-word all-stars like the venerable lioness Nikki Giovanni...."

Virginia News Network (May 19): Insect Identification Lab Manager **Eric Day** discussed tick problems in Virginia.

Richmond Times Dispatch (May 22): **William Velerander** of chemical engineering was quoted extensively in a front-page article on his work with the American Red Cross. They are using transgenic pigs to produce protein C which will be used for manufacturing pharmaceuticals.

Virginia News Network (May 26): Educational Leadership and Policy Studies Professor **Lawrence Cross** said there are major problems with the state's Standards of Learning tests.

Reader's Digest (June 1999): **Rosemary Blieszner**, professor of child and family development, is quoted in an article on "How to Mend a Friendship" by Patricia Skalka.

ACHIEVERS

Donna W. Ford, administrative assistant in the Virginia-Maryland College of Veterinary Medicine's Office of Academic Affairs, has been awarded the 1999 Dean and Department Area Staff Award. The award recognizes the exemplary behavior of classified staff personnel.

Ansar S. Ahmed, an associate professor in the department of Biomedical Sciences and Pathobiology, recently presented papers at two international meetings in India. "Immunological Consequences of Exposure to Estrogens: Aberrant Spontaneous and Induced Lymphocyte Activation," was presented at the VII International Congress of Reproductive Immunology in New Delhi.

He also presented "Importance of Sex Hormones in Autoimmunity: Implications to Myasthenia Gravis," at the International Myasthenia Gravis Workshop in Mysore, India. His international travels were partially supported by the International Congress of Reproductive Immunology.

Grant Turnwald, associate dean for academic affairs at the VMRCVM, has co-authored the third edition of *Small Animal Clinical Diagnosis by Laboratory Methods*, a major reference text in veterinary medicine. Turnwald is also a professor in the Department of Small Animal Clinical Sciences.

Craig D. Thatcher, professor and head of the VMRCVM's department of Large Animal Clinical Sciences, recently gave presentations on "Compounding Parenteral Nutrition Solutions," "Nutritional Assessment of the Critical Patient," "Enteral Nutritional Support," "Enteral Nutrition: Case Presentations," "Parenteral Nutritional Support," "Parenteral Nutrition Support: Case Presentations," "Nutritional Support" at the Western States Veterinary Conference in Las Vegas.

Jerry Roberson, an assistant professor in the VMRCVM's Department of Large Animal Clinical Sciences, was one of the featured speakers at the National Mastitis Council Annual Meeting, which was recently held in Arlington, Virginia. His presentation was titled "Epidemiology of *Staphylococcus aureus* on Dairy Farms."

Nathaniel White, the Theodora Ayer Randolph professor of surgery at the VMRCVM's Marion duPont Scott Equine Medical Center, recently gave presentations at the Central Veterinary Conference in Kansas City, the ACVS Veterinary Symposium in Chicago, the Sixth Equine Colic Research Symposium at the University of Georgia and the AAEP Continuing Education Meeting in Hawaii. White also authored chapters in *Current Techniques in Equine Surgery and Lameness*, *Equine Medicine and Surgery*, and *Pathophysiology of Obstruction, Strangulation, Strangulation/Obstruction Ischemia*.

Two employees of Virginia Tech's Division of Continuing Education have received the designation of certified program planner (CPP) by the Learning Resources Network (LERN), an international association in lifelong learning.

Donna Raines, executive program administrator, and **Rebecca Shelor**, program administrator, recently passed an intensive exam to receive this designation.

The LERN organization has more than 5,000 members in eight countries. Raines and Shelor will travel to Washington, D.C., in December to receive their certificates and medals at the International LERN Conference, which attracts approximately 1,000 attendees.

Raines has worked in the Division of Continuing Education for 15 years. Shelor has spent the past three of her 15 years at Virginia Tech with the division.

"The CPP designation is a standard of achievement in the knowledge and understanding of lifelong learning," said LERN President William Draves. "By becoming a certified program planner, Donna and Rebecca have helped to professionalize the field of educational programming."

In March, Provost **Peggy S. Meszaros** addressed students in the President's Emerging Leaders Program at her alma mater, Austin Peay State University. She also served as a

(See ACHIEVERS on 5)

SPECIAL REPORT TO SPECTRUM

Staff Appreciation Day Termed Rousing Success

By Margie Murray

After all the debris from the food and games was swept away, Staff Appreciation Day was labeled a rousing success. Over 3,600 staff members came to enjoy the live band, Family Feud competitions, walking tours, Bingo, and Let's Make a Deal—With a Twist. Staff members were able to visit comfortably with friends and co-workers, and several forms of consecutive entertainment were offered throughout the course of the day.

The fun and excitement began with the Family Feud competition, emceed by Tony Distler. Although 36 teams signed up to compete, only eight teams were chosen due to space and time limitations. Relying on a lottery process to choose the teams, those officially entered were The Hatfields—VT Foundation; The Loose Wheels—College of Human Resources and Education; The Black Sheep and Scapegoats—Research and Graduate Studies; Staff Senate—members of the Staff Senate, Fedwin' Finance Fam'ly—AIS and Finance; The

(See STAFF on 4)



Spirited participants in the Family Feud competition were, from left, Robin Murray, Leigh Ann Graham, Heather Franklin, Heidi Myers, and Jennifer Smith. The team was called the Hatfields. (J. McCormick)

STAFF SENATE COMMUNICATIONS COMMITTEE REPORT

Prepared by Cindy Harrison

The Communications Committee has met once a month. Committee members are Patrick Donohoe (chair), Spencer Allen, Billie Cline, Cindy Harrison, Mike Koehlein, Terry Lawrence, Milko Maykowskyj, Mary Pennington, Charlie Rose, and Janet Town. Listed below is a summary of the committee's activities for the past year.

1. Staff Senate Brochure. A brochure was designed including content and artwork, publication and distribution. The brochure is printed in color with three panels. It provides information on the purpose of Staff Senate, the hierarchy

of the governance system, and the benefits of participation in staff governance. It can be used as a marketing tool.

2. Staff Senate web site. The web site www.staffsenate.vt.edu was designed and maintained by Maykowskyj. It has been designed so that all Staff Senate announcements, minutes, officers and other documents are displayed. All staff members are encouraged to visit the web site, which is updated and expanded regularly.

3. Staff Senate Telephone. The Staff Senate had a direct telephone number which was being misused by non-Senate personnel. The Staff Senate terminated the telephone, but Communications Network Services put in its place a phone mail box to receive messages (1-2585). The messages are checked daily by members of the Communications Committee on a rotating basis.

4. Orientation Letter. A letter has been composed by the Communications Committee

and signed by the president of the Staff Senate for the past three years. The letter is distributed by Personnel Services in the Orientation Packets of each new employee. The letter tells employees about staff governance and staff associations.

5. Trademark for Tag Line. The Staff Senate coined the phrase, Partners in Shared Governance, had a banner made with the wording, and has used it as a "tag line" in a variety of ways. Through research, the Communications Committee applied for a limited trademark designation for this tag line. The "TM" designation and its application were reviewed by Michael Martin of VTIP and approved. The web was searched for other users of this tag line; none were found. The tag line is used on senate correspondence, brochures, banners, orientation letters, etc.

6. Staff Association Photo Board. (See STAFF SENATE on 4)

CORRECTION

In the May 27 issue of *Spectrum*, a calendar item incorrectly listed Animal Industry Day on June 9. The correct date is July 9. We apologize for any confusion this error may have caused.



VIRGINIA POLYTECHNIC INSTITUTE AND STATE UNIVERSITY

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Patent recipients honored

By Susan Trulove

Virginia Tech faculty members, students, and staff who received 29 patents during 1998 were honored by the university and Virginia Tech Intellectual Properties, Inc. (VTIP) at a reception at the German Club in May.

"We appreciate their creativity and contributions to the growth of knowledge and technology," said Michael Martin, executive vice president of VTIP.

Graduate students were significant partners in last year's patents. In the College of Natural Resources, Ph.D. candidate Jason Todd's dissertation research has resulted in a new, low-cost material for purifying proteins. Todd, Wolfgang Glasser, professor of wood science, and an employee of LigoChem Inc., received a patent (No. 5,770,712 June 23, 1998) for "Crosslinked hydrogel beads from chitosan." Chitosan is a modified form of chitin, a structural component in crab and shrimp shells. The technology is licensed to LigoChem, a start-up company in New Jersey. Glasser, who produced and patented a number of cellulose-based separation materials, is

continuing to develop and patent chitosan-based materials and products.

In the College of Agriculture and Life Sciences, Richard Fell, entomology professor, and Colleen Cannon, who received her Ph.D. in December, developed an environmentally safe bait to control carpenter ants. The diet they developed, which is highly attractive to the ants and other pests, is licensed to a multi-national company and will appear shortly on store shelves. Patent No. 5,850,707 issued less than a week after Cannon graduated.

Also in entomology, retired research scientist Heather Wren received two more patents for compositions and methods for controlling insect pests. The patent received in June (No. 5,770,601) was for a novel material that attracts insects and enhances the deadly effect of other agents. The patent awarded in December (No. 5,852,025) is for a novel combination of two materials that act in conjunction to inhibit vital physiological processes in insects. The materials have proved effective against mosquito larvae, fly larvae, and some beetle larvae, prevent-

(See PATENT on 5)

Conference highlights Tech ETD program

By Susan Trulove

At the end of the second year of requiring students to submit electronic theses and dissertations (ETD's), Virginia Tech has almost 2,000 ETD's, and about 65 percent contained some multi-media content, according to Associate Provost John Eaton.

Eaton made his report to the Networked Digital Library of Theses and Dissertations (NDLTD) 1999 Workshop Program at Virginia Tech, which was attended by graduate school and library representatives from 33 universities from across the US and Canada.

Virginia Tech has led the effort to help universities put students' final research projects into digital format, and has developed student-training materials, software, and procedures that others are beginning to adopt. At the May 16-18 program, other institutions also had experiences to share—such as West Virginia University (WVU), which now requires ETD's, while still others have pilot projects or attended to learn and discuss concerns.

Virginia Tech computer science professor Ed Fox said NDLTD objectives are for theses and dissertations "to reach the whole world, be sustainable, and be highly visible and useable."

"I think we should only do things when they help us. I struggle with computers too," he said. "But ETD's can be more expressive. Mandating ETD's will change future scholarship. The people who are doing this are our future leaders and scholars. NSF is requiring PDF proposals, which are harder than an ETD. So doing an ETD is part of a student's education."

"Our institutions often compete," Fox said. "This is an area where we can work together. There should be several hundred thousand ETD's a year. That will mean a dramatic increase in knowledge shifting. There's even new software that will automatically notify someone who has registered particular interests when something new is available."

Fox said a NDLTD research goal is to create a test bed. "We are doing research with search mechanisms and exploring what other people are doing."

He said most ETD's are in PDF. "We would like more conversion tools. Let's promote access. Our mantra is 'to help our students' but it also helps others."

Almost 1,100 of Virginia Tech's ETD's are available world wide and about 600 of them can be accessed by vt.edu users only, Eaton said. "The rest are not accessible either because they contain proprietary information or because parts of them await publication in journals that consider ETD's to be prior publication."

Fox said that the concern about publishers who consider ETD's to be prior publication is being addressed. "The American Chemical Society, for example, has changed their policy. We can work with others." He urged the universities to object to exclusive copyrights. "Don't let just the publishers make the rules."

At Virginia Tech, there are as many as 40,000 accesses per week from some 37,000 hosts per year from around the world, Fox said. "Popular areas are engineering and physics—particularly documents with lots of tables and charts."

Fox said the project team is available to travel, answer e-mail, answer phone calls, and video conference. We almost have a new video

(See TECH on 8)

ACTIVITIES

EVENTS

Thursday, 10

One-Act Comedies, 7 p.m., Squires Studio Theatre:
Death Knocks and *The Actor's Nightmare*.

Friday, 11

Last Day to Resign.
Friday Night Out Concert, 6 p.m., Henderson Hall
Lawn: *Roaring Jello*.
One-Act Comedies, 7 p.m., Squires Studio Theatre:
Death Knocks and *The Actor's Nightmare*.

Saturday, 12

YMCA Hike, 9 a.m., Meet at YMCA, 403 Washington St.: Rice Fields.
One-Act Comedies, 7 p.m., Squires Studio Theatre:
Death Knocks and *The Actor's Nightmare*.

Wednesday, 16

Salary and Wage Paydate.
With Good Reason, 7 p.m., WVTF: "Whither Tobacco and the Family Farm," with Carole Cramer and Wayne Purcell. Film, 7:30 p.m., Squires Haymarket Theatre: *Payback*.

Thursday, 17

Staff Senate Meeting, 5:30 p.m., 1810 Litton Reaves.

Friday, 18

Friday Night Out Concert, 6 p.m., Henderson Hall
Lawn: *Grace Note*.

Sunday, 20

YMCA Hike, 1:30 p.m., Meet at YMCA, 403 Washington St.: Angel's Rest.

Wednesday, 23

With Good Reason, 7 p.m., WVTF: "Consumed by Sprawl," with Michael Chandler.

Park dedication to honor Talbot

Talbot Memorial Park on the Huckleberry Trail will be formally dedicated during ceremonies on Thursday, June 17 at 12:30 p.m.

Located on the Huckleberry Trail, the park has been created to honor the late Richard B. Talbot, founding dean of the Virginia-Maryland College of Veterinary Medicine. Talbot died in an airline crash in 1994.

Speakers are expected to be Virginia Tech Director of Religious Affairs Emeritus Al Payne, VMRCVM Dean Peter Eyre, former Virginia Tech President William Lavery, and several town officials.

The Talbot Memorial Park has been developed by the Rotary Club of Blacksburg in conjunction with Virginia Tech and the Town of Blacksburg. The park is a wayside off the Huckleberry trail which consists of a gazebo constructed and

donated by students from Blacksburg High School, several park benches, and a variety of ornamental plants and trees.

The Talbot Park is located approximately one-quarter mile down the Huckleberry Trail from the Blacksburg Public Library. The site can be accessed from the southern side of the Virginia Tech campus by turning into the university's Turfgrass Research Center from Southgate Drive and proceeding down a dirt road to the park.

Bursar's announces new cashiers' windows hours

New cash-receipts software is being installed in the Bursar's Office to bring it to Y2K compliance. The new software should improve the cash-receipts process. There is a characteristic of the new software, however, that may cause some inconvenience to

customers. The system does not allow the cashiers to balance the cash registers individually while the system is in operation, meaning all registers must close at the same time each day.

Effective June 14, and continuing until further notice, the cashiers' windows will close at 4 p.m. each day to balance receipts and upload transactions. Cashiering operations will be extended until 5 p.m. on student-fee-payment due dates.

There are drop slots located in the door of room 227 for phone/modem bills, all other payments, and a slot for department deposits.

The Bursar's Office will continue to operate on the 8 a.m.-to-5 p.m. schedule each day; all services, except the cashier operations at the windows will be available to customers.

For more information, call 1-7217 or e-mail maryt@vt.edu.

BULLETINS

STAFF

Continued from 3

Merrymac Hillbillies—University Relations, Sociology, Athletics, Family and Child Development, The Pizza Pushers—Hokie Grill, and The Really, Really Nice Safety-Oriented Non-Confrontationals—Environmental Health and Safety.

The two finalist teams were: The Loose Wheels composed of Tammie Smith, LaRhonda Kellison, Jeff Havens, Joyce Vest, and Renee Chandler (alternates for that team were: Connie Smith and Mary Whitlock), and The Fawdin' Finance Fam'ly competitors were Kathy Armstrong, John Krallman, Cindy Perdue, Mark Hoppe, and Judy Wells. The grand champions were The Loose Wheels.

Recognition for team spirit went to The Fawdin' Finance Fam'ly with Kathy Armstrong as captain. Recognition for creativity went to The Merrymac Hillbillies with Doris Shelor as captain.

Offered this year were seven walking tours. Tour destinations were McComas Hall, Merryman Athletic Center, Deet's Place, Historical Walk, Horticulture Garden, West End Market, and Wallace Hall Design Kitchen. With a total of 490 spaces available in 15 sections, approximately 419 spaces were filled. This is a record number for attendance, and assists with supporting CommonHealth's goal for expanded participation in health walks.

Bingo was also a big hit. Karen Cronin served as bingo matron, and dancing bingo ladies were Mary Grace Theodore, Debbie Rhea, Debbie Cruise, Amanda Gland, and Janis Grubb. Over 35 gift bags loaded with prizes were awarded throughout the day. Pepsi Products, the VT Licensing Office, and the VT Bookstore donated gifts. Gifts included t-shirts, ball caps, Star Wars collectibles, and several Virginia Tech keepsakes.

We'd like to thank the members of the Staff

Appreciation Day Committee. Full members for 1999 were Scotty Bolling from entomology, Geneva Dalton from Architecture and Urban Studies, Patrick Donohoe from Capital Design and Construction, Betty Greene from the College of Agriculture and Life Sciences, and Janet Town from Urban Affairs and Planning. Ex-officio members: Brenda Husser from sociology, and Joy Thorn from Human Resources and Education.

In addition to the committee members, there were also many administrators and support staff members assisting with the planning and coordination of all events. Linda Woodard and Carole Nickerson served as co-administrative chairs. Other who assisted included Tony Distler, Bridgit Mitchell, Margie Murray, Anthony Purcell and Mary Grace Theodore. Assisting them were Rhea, Gland, Diane Karfakis, Cruise, and Cronin.

Many individuals involved in the success of this year's event. Not only do we rely on the committee and their assistants, but also a large portion of individuals that are employed in the Physical Plant. In particular, we would like to thank John Beach and crew for the entire building setup and preparation.

Special thanks also goes to Julie Keeton who worked many long hours to perfect the PowerPoint presentation of the Family Feud game and to the Staff Appreciation Day Band with Wendell Brown of chemical engineering.

We were also fortunate to have many faculty members and administrators donate their time to escort walking tours and serve soft drinks.

Final thanks goes to the many staff members who work for Personal Touch Catering for the wonderful lunch.

We look forward to Staff Appreciation Day 2000 and welcome your comments. Please e-mail comments to woodard@vt.edu, cnickers@vt.edu, or mbmurray@vt.edu.

PUBLIC SERVICE

Continued from 1

tries to Canada are electronics (\$233 million), chemical (\$214 million), transportation equipment (\$190 million), industrial machinery (\$172 million), and primary metals (\$46 million).

"Canada is the best foreign market for companies that are new to exporting," said Chad Miller, economic-development specialist with Public Service Programs. "It's a relatively easy market to penetrate due to proximity and market similarities."

PSP will lead a 13-state delegation to the RepCan event June 14-17. Companies interested in participating should contact Miller by telephone at 1-8324 or by e-mail at chadm@vt.edu.

The second grant, awarded to the university's Pamplin College of Business and Public Service Programs, is a \$10,000 award from Virginia's Center for Innovative Technology (CIT). The money will be used to develop the informational content of the CIT's International Technology Channel web site. The completed product will be an interactive, educational, and entertaining tool for Virginia's technology companies to explore international business opportunities.

"The International Technology Channel

STATE'S

Continued from 1

will also be able to visit the studio to explore applications specific to their business needs.

The studio is made possible by Virginia Tech and the Center for Innovative Technology. CIT is paying for the rental of the 2000 square foot office space. Virginia Tech worked with its corporate partners to provide the equipment to operate the studio and will provide the staff support.

In his speech, Torgersen praised the efforts of several corporate partners who made the studio possible. These include Litton Network Access System of Roanoke, Dell Computers, Bell Atlantic Virginia, Sprint, A&J Technologies, Amteva, CRT, EduTest, EMR, CISCO Systems, FORE, Liebert, and Zydacon.

will give the state's estimated 3,400 technology-based businesses easy access to the information they need to start or expand their exports," Miller said. "There are many resources for exporters, but until this project, we have not been able to find information designed specifically to assist the international expansion of technology companies."

Miller will be leading the project along with Jim Littlefield, professor of marketing in the Pamplin College of Business.

Technology-based companies in Virginia employed more than 319,000 workers and contributed more than \$15 billion in wages to the state's economy last year. Estimates project that by 2002, the number of companies will jump to 5,300 firms employing more than 365,000 with approximately \$22.7 billion in wages.

"Virginia's technology companies have a tremendous global potential that they are just starting to tap in to," Miller said.

Technology exports from Virginia are estimated at \$3.4 billion or approximately 25 percent of the state's total exports. Electronic equipment exports have jumped by 83 percent in the last four years to over \$1 billion. Computer equipment exports have reached \$1.1 billion.

"These are just some of the technology sub-sectors that could benefit from increased international knowledge," Miller said.

STAFF SENATE

Continued from 3

Lawrence worked with Joy Thorn in designing the display board for staff associations. The board has been on display at several locations throughout the university for the past year and will be at Staff Appreciation Day.

The committee has the following proposed projects under review:

1. A Staff Senate newsletter, to be issued quarterly.

2. A ListServ for the classified staff, which does not exist at this time.

3. A slide program promoting the Staff Senate and staff governance, including dialogue to accompany each slide.

PATENT

Continued from 3

ing them from maturing into adults. The bait additives are licensed to Dominion BioSciences, Inc. on an exclusive basis.

The final patents from the college are bound to attract humans. Herbert Stiles, associate professor at Virginia Tech's Southern Piedmont Agricultural Research and Extension Center in Blackstone; Joseph Fiola, the small-fruits specialist at Rutgers University's Cream Ridge Fruit Research and Extension Center; Brian Smith, a small-fruit breeder and horticulturist at the University of Wisconsin; and Harry Swartz, a small-fruits breeder and bio-technologist at the University of Maryland, received two patents in May for raspberry plants.

In the College of Arts and Sciences, David Kingston, professor of chemistry, received two patents. The first patent (No. 5,739,359 April 14, 1998) is with postdoctoral associates Mahendra Chordia and Prakash Jagtap, for a method for preparing 1-Deoxy Paclitaxels—"novel derivatives of the important anti-cancer drug Taxol and their pharmaceutical formulations for use as anti-tumor agents. This technology is currently under an exclusive option to Bristol-Myers Squibb. Kingston's second patent, with graduate student Xian Liang (Patent No. 5,773,461 June 30, 1998) for "7-Deoxy-6-substituted Paclitaxels," is a novel process for the preparation of Taxol analogs with improved activity as compared with the parent compound. Related analogs can be prepared by simple modifications of the process. This technology is a joint invention with Bristol-Myers Squibb, which holds an option to the intellectual-property rights.

Christian W. Kohlpaier of Celanese Corp., Brian E. Hanson, professor of chemistry, and Hao Ding, former student and postdoctoral fellow, now at Air Products and Chemical Inc., received a patent (No. 5,817,775 Oct. 6, 1998) for novel catalytic materials incorporating a unique functional group that makes them easily converted to a water-soluble form. Such catalysts can be used in environmentally benign chemical processes for the production of bulk and fine chemicals, including pharmaceutical products.

An employee of Polymer Solutions Inc and Virginia Tech chemistry professor Larry Taylor received a patent for refinements of patented compounds they developed to replace mercury. The latest patent (No. 5,792,236 Aug. 11, 1998) is for a non-toxic liquid metal

composition for use as a mercury substitute, for use in improved switching and sensing devices in which mercury is replaced by alternate electrically conductive media. These devices reduce environmental impact and exposure of humans to toxic material. An exclusive license has been executed with the research sponsor, NewMerc, Ltd. of Blacksburg.

In the College of Engineering, Michael Furey, professor of mechanical engineering, and Czeslaw Kajdas, of the Warsaw University of Technology Institute of Chemistry, received two patents. The February patent (No. 5,716,911) was for "A method for reducing friction and wear of rubbing surfaces using anti-wear compounds in gaseous phase," and the December patent (No. 5,851,964) was for "Wear reduction using cyclic amide compounds." The patented compounds have been found to be extremely effective in reducing wear of ceramics and steel, are inexpensive, and pose no special health or environmental problems.

William Velandier, professor of chemical engineering, and researchers from the American Red Cross, and Lothar Hennighausen, and the National Institutes of Health received a patent (No. 5,831,141, Nov. 3, 1998) for "Expression of heterologous polypeptide in mammary tissue of transgenic non-human mammals using a long whey acidic protein promoter." Heterologous polypeptides, such as Protein C, are produced in the milk of the target mammal and the trait is inherited by transgenic offspring in normal Mendelian fashion.

Stephen L. Kampe, associate professor of materials science and engineering, and Leonitis Christodoulou (presently at Imperial College, London, UK) have received a companion set of patents (Nos. 5,854,966, issued Dec. 29, 1998 and 5,744,254, issued Apr. 28, 1998) that describe a new class of *in situ* metal-matrix composite. The patents were obtained for both the method of producing the composites, as well as for a series of composite compositions that have been produced at Virginia Tech using the technique.

Donald Baird, professor of chemical engineering, former post-doctoral student Jose de Souza, who is now with 3M, and graduate student Christopher Robertson created a new process and technique for generating thermoplastic fibers reinforced with liquid-crystalline polymers of higher melting point than the matrix. The patent (No. 5,834,560 Nov. 10, 1998) is for composite fibers with improved tensile strength and modulus that exceed values

predicted using composite theory. The fibers can be used to make preforms that can be compression molded to make composite parts and structures.

Peter Athanas, associate professor of electrical engineering, and graduate assistant Ray Bittner Jr. received a patent for a novel process for performing numerical computation and digital signal processing. "Worm-hole run-time reconfigurable field programmable GATE array (FPGA)" (Patent No. 5,828,858 Nov. 27, 1998) is a concept that describes how data and configuration information are represented and pass through the computing platform.

Gregory Adel, Gerald Luttrell, and Ro-Heon Yoon, all of the Center for Coal and Minerals Processing, which Yoon directs, received a patent (No. 5,814,210 Sept. 29, 1998) for refinements to previously patented equipment and methods for the purification and separation of fine-particle coal by flotation using microbubbles. The equipment is in commercial use world wide.

Rick Claus, Michael Gunther, and Kent Murphy of the Fiber and Electro-Optics Research Center, directed by Claus, and graduate students Angela Plante, Mallika Sen, Nirmal Velayudhan, and Veerendra Vuppala, received a patent (No. 5,809,189 Sept. 15, 1998) for "Controlled dopant diffusion for fiber optic coupler." Dopant is used fibers. The patent describes "a novel process using the phenomenon of dopant diffusion to improve the uniformity of the index profile in the taper region of a fiber optic coupler." The process allows for automation and does not change the external geometry of the coupler.

Aerospace and ocean engineering graduate student Anthony DiPietro Jr. and Walter O'Brien, professor of mechanical engineering, received a patent (No. 5,782,603 July 21, 1998) for a new technique for active control of rotating stall in axial flow fans and compressors. The technique allows rotating stall recovery without using the conventional stall recovery methods of throttle area increase or reduction in rotor speed. The technique can be applied to an aircraft jet engine fan or compressor, for example, or any other type of gas turbine in a practical manner.

Richard Connors, associate professor of electrical engineering and graduate student Qiang Lu received a patent (No. 5,761,070 June 2, 1998) for "Automatic color and grain sorting of materials," a system for sorting hardwood parts so that they can be edge glued to form panels of a uniform color for use in

manufacture of table tops, door fronts, cabinet fronts, etc. The system replaces hand sorting. The technology has been exclusively licensed for wood cabinets, but other fields of use available from VTIP.

Chris Fuller, professor of mechanical engineering; Craig A. Rogers, former Virginia Tech faculty member, and the late Liang Chen, 1990 Ph.D. graduate in mechanical engineering who was a faculty member at San Diego State University, invented an "Active foam for noise and vibration control," which received a patent in February (No. 5,719,945). The electrically activated foam uses time varying signals to adapt properties for vibration isolation and sound absorption. An exclusive license has been executed with the research sponsor Noise Cancellation Technologies.

Ting-Chung Poon, professor of electrical engineering and employees of Hamamatsu Photonics K.K., Japan, and Hamamatsu Corporation, N.J., received a patent (No. 5,805,316 Sept. 8, 1998) for a 3-D microscopy system that eliminates twin-images. The 3-D information is achieved with a 2-D scan and 3-D reconstruction performed optically or digitally.

A group in materials science and engineering received several patents for related technologies.

Richey M. Davis, associate professor of chemical engineering, Seshu Desu, former faculty member, and graduate assistant Vidhu Nagpal received a patent (No. 5,817,160 Oct. 6, 1998) for "UV absorbing glass, described as "a novel process for the production of thin transparent films with the capability of completely blocking UV radiation below a wavelength of 300 nm. "A significant advantage of the process is that none of the films or precursor materials are especially toxic and offer no significant environmental or biological hazards," write the researchers. This technology has been licensed to Coatings Innovation Group on an exclusive basis.

Hemanshu D. Bhatt, 1992 Ph.D. graduate, and Desu received a patent (No. 5,790,366 Aug. 4, 1998) for "High-temperature electrode-barriers for ferroelectric and other capacitor structures." The device consists of a multi-layer metal oxide-metal structure on top of either a silicon or oxidized silicon substrate.

Bhatt, Desu, and 1996 Ph.D. graduate Dilip P. Vijay received a patent (No. 5,807,774 Sept. 15, 1998) for "A simple method of fabricating ferroelectric capacitors" used for memory applications. The simple structure they designed overcomes many reliability problems by reducing fatigue and current leakage.

Desu and Ph.D. graduate Chi Kong Kwok received a patent (No. 5,817,170 Oct. 6, 1998) for developing a "Low-temperature seeding process for a ferroelectric memory device." The researchers wrote that, "This novel process makes use of a seeding layer that has a similar crystal structure to ferroelectric materials with desirable compositions but that can be transformed at lower temperatures. The process can be applied to any solid solution system that undergoes polymorphic transformation."

Desu, master's degree graduate Jie Si, who is now at Wafer Tech, and an employee of Wafer Tech received a patent (No. 5,717,234 Feb. 10, 1998) for a fabrication process using metal-organic chemical-vapor deposition (MOCVD) techniques (a method for depositing highly uniform material films on a large wafer area) to produce a high capacity capacitor for dynamic random access memory applications. The device solves the temperature dependent dielectric breakdown problem encountered in these applications.

ACHIEVERS

Continued from 2

panel member at SCT Banner's conference on technology initiatives. In April, Meszaros made a presentation on "Reengineering Excellence" at Michigan State University. She also met with department heads and administration at the University at Stony Brook to discuss how to develop an academic agenda and create learning communities. In May, Meszaros presented the commencement address at Virginia Western Community College.

Laura Worley Fornash and Mark Schaefermeyer, assistant directors of program development in the Division of Continuing Education, and **Scott Midkiff**, associate professor of electrical and computer engineering, recently presented at the University Continuing Education Association's Forum on Competition in the Workforce Education Market. Their program, "Innovation in Graduate Program Delivery: A Role for Continuing Education in Responding to Workforce Education in Information

Technology," overviewed Virginia Tech's new graduate program in information technology offered at the Northern Virginia Center.

John S. Phillips, economic-development officer, has been appointed to a four-year term as a member of the Montgomery County Industrial Development Authority.

Melinda Crowder, assistant director for assessment, and **David Ostroth**, assistant vice president of University Unions and Student Activities, recently presented a session titled "Student Leadership: Connecting Experience to Skill Development through Assessment" at the 1999 annual American College Conference in Atlanta.

Judy Cooper, program coordinator for University Unions and Student Activities, recently presented three educational sessions at the National Association of Campus Activities convention. Two were panel discussions: "Current Issues and Trends in Promoting Major Concerts on College Campuses" and "The Past, Present, and Future of Film Programming." The

third was a presentation on "The Future of Communities."

John Muffo, director of the academic-assessment program, recently presented a plenary address at the first annual Congress on the Impact of Technology upon Learning held at Wake Forest University. His presentation was titled "Lessons Learned from a Decade of Assessment."

Benjamin Dixon, vice president for multicultural affairs, gave a speech on "Diversity: Our Community's Common Wealth" at the Second Regional Conference on Community Relations. Sponsored by the Roanoke City Council, Salem City Council, City Manager's Community Relations Task Force, Roanoke Valley Regional Community Relations Conference Committee, Roanoke County Board of Supervisors, and Vinton Town Council, the conference focused on "Multiculturalism: Putting an Ideal into Practice." It was held May 20-21 at the Hotel Roanoke and Conference Center.

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: Office/Clerical: 1-6196; Technical/Research: 1-6160; Service/Trades: 1-6176; Professional and Managerial: 1-4649; Information Technology: 1-2233. Some of the following positions include state benefits. Positions with numbers beginning with a "W" are hourly and do not include state benefits. Comments about this shortened listing should be made to perserv@vt.edu or by calling 1-5301 or 1-6258 for persons with hearing impairments. Individuals with disabilities desiring assistance or accommodation in the application process should call by the application deadline.

To better serve applicants, the closing date for advertised positions has been changed to 1 p.m. Monday unless otherwise stated. An EO/AA employer committed to diversity.

Full Time

Agricultural Supervisor, 7457M, Grade 7, College Farm/College of Agricultural and Life Sciences.

Auditor—Internal, 2335T, Grade 11, Auditor—Internal.

Computer Systems Engineer, 7438J, Grade 14, Center For Power Electronics.

Computer Systems Engineer, 7440J, Grade 14, Center For Transportation Research.

Computer Systems Engineer, 7444J, Grade 14, Civil Engineering.

Computer Systems Engineer, 2704T, Grade 14, Computer Science.

Computer Systems Engineer, 355D, Grade 14, Computing Center.

Electrician, 1691P, Grade 7, Physical Plant.

Enrollment Services Coordinator, 1343P, Grade 10, Office of University Bursar-Student Accounts.

Executive Secretary, 7392J, Grade 6, Materials Science and Engineering.

Executive Secretary, 1228T, Grade 6, Office of Scholarships and Financial Aid.

Food Operations Manager A (Assistant Manager), 1033H, Grade 8, Residential and Dining Programs/Dietrick Dining Center.

Food Operations Manager B/Executive Chef, 0029H, Grade 10, Residential and Dining Programs/Owens Dining Center.

Grounds Worker, 6475P, Grade 2, Physical Plant.

Housekeeping Supervisor, 124H, Grade 4, Residential and Dining Programs.

Housekeeping Worker, 1138G, Grade 1, Donaldson Brown Hotel and Conference Center.

Housekeeping Worker, 7261G, Grade 1, Recreational Sports.

Housekeeping Worker, 1216H, Grade 1, Residential and Dining Programs.

Information Technologies Audit Manager, 1735T, Grade 16, Internal Audit.

Lab Specialist Senior, 7456S, Grade 9, Food Science Technology.

Laboratory Instrument Maker, 1671J, Grade 10, Architecture.

Laboratory Specialist Advanced, 7455M, Grade 11, Biological Systems Engineering.

Laboratory Specialist Senior, 4275T, Grade 9, Chemistry.

Licensing and Trademark Director (Business Manager B), LC055D, Grade 12, Trademark and Licensing.

Office Services Specialist, 1431S, Grade 5, University Registrar.

Oracle Dba, 7433D, Grade 14, Administrative Information Systems.

Program Support Technician Sr., 2373M, Grade 7, College of Veterinary Medicine.

Program Support Technician Sr, 0365J, Grade 7, Office of Interdisciplinary Programs.

Program Support Technician, Virginia Tech Foundation, Grade 7.

Program Support Technician, 463T, Grade 6, Computer Science.

Program Support Technician, 7143J, Grade 6, Hospitality and Tourism Management.

Program Support Technician, 2202C, Grade 6, University Development.

Program Support Technician, 1928G, Grade 6, University Unions and Student Activities.

Programmer, 2256D, Grade 10, University Libraries.

Programmer/Analyst, 6887D, Grade 12, Administrative Information Systems.

Research Specialist Senior/GIS Specialist, 7450M, Grade 9, Entomology.

Senior Programmer Analyst, 6896D, Grade 14, Information Technology Acquisitions.

Part Time

Banquet/Setup (Foa-b), W022143G, Grade 2, Donaldson Brown Hotel and Conference Center.

Equipment Inventory Asst/Fiscal Assistant, W022627C, Grade 5, Controller's Office.

Flight Instructor (Pilot), Airport, W020661T.

Food Operations Assistant (Server), W022531G, Grade 1, Donaldson Brown Hotel and Conference Center.

Food Operations Assistant A (Dishwasher), W022679G, Grade 1, Donaldson Brown Hotel and Conference Center.

Grounds Worker, W020798G, Grade 2, Golf Course.

Health Educator, W022693J, Grade 8, Institute for Community Health.

Housekeeping Lead Worker (Trades Helper), W022081H, Grade 2, Residential and Dining Programs/Culinary Services Maintenance Crew.

Housekeeping Worker, W020214G, Grade 1, Schiffert Health Center.

Office Services Specialist, W022413T, Grade 5, University Registrar.

Pharmacy Assistant A, W020839M, Grade 4, Veterinary Teaching Hospital.

Programmer, W022623M, Grade 10, College of Veterinary Medicine/Biomedical Sciences and Pathobiology.

Radiologic Technologist, W022412M, Grade 7, Veterinary Teaching Hospital.

Secretary Senior, W020618M, Grade 5, College of Veterinary Medicine.

Storekeeper, W022291M, Grade 4, Veterinary Teaching Hospital.

Trades Helper/Carpenter's Assistant, W020219H, Grade 4, Residential and Dining Programs/Facilities.

Off Campus

Distance-Learning Specialist, 7410D, Grade 12, Office of Distance Education.

FACULTY POSITIONS

INSTRUCTIONAL

Department of Finance. Full Professor and Director of the Financial Risk Management Center in Northern Virginia. The opening is for spring 2000. The applicant must have a distinguished record of scholarly work in finance as well as administrative experience in an academic, corporate, or government environment. The director will be responsible for fund raising and administration of the center and will teach two courses per year in the evening MBA program. Applications should include a curriculum vitae, three references, and examples of current research. Send applications to Don Chance, Department of Finance (0221), Pamplin College of Business, Virginia Tech, Blacksburg VA 24061; 1-5061; fax: 1-3155; dmc@vt.edu.

Department of Marketing. Assistant Professor. Position begins August 2000. Applicants must have completed, or be in the final stages of completing, a doctoral degree. Applications will be reviewed on the basis of the candidate's potential to excel in research and teaching and to work effectively in a collegial environment. In addition to doctorates in business, the department welcomes applicants whose doctoral work is in related areas such as cognitive, social, quantitative, or decision-making psychology, and behavioral or experimental economics. Application reviews begin July 1, 1999; search will remain open and applications accepted until the position is filled. Applicants should submit letter of application, vita, and the names of three references to Kent Nakamoto, Department of Marketing (0236), Virginia Tech, Blacksburg VA 24061; 1-6949; e-mail:

nakamoto@vt.edu.

Center for Science and Technology Studies. Visiting Assistant Professor. Appointment is for one year beginning Aug. 16, 1999. Applications are invited from scholar-teachers who are experienced in the history, philosophy, social and cultural studies, and/or politics and policy studies of science and technology. Candidates must have a significant research program and a strong record of teaching, and must be prepared to teach five courses, including one or two at the graduate level. The undergraduate courses will include Science and Technology in Modern Society and Humanities, Technology, and the Physical Sciences; other courses to be negotiated as appropriate, with preference for one or more in the philosophy of science and technology. Candidates for this position must have the Ph.D. in hand. Send a letter of application, CV, writing sample, syllabi for courses taught or teaching portfolio if available, and the names and phone numbers and/or e-mail addresses of at least three people who can offer recommendations (letters of recommendation also welcome). Applications screening begins June 11. The review process will continue until the position is filled. Please send applications to Gary Downey, Director, Center for Science and Technology Studies (0227), Virginia Tech, Blacksburg VA 24061.

NON-INSTRUCTIONAL

Virginia Cooperative Extension. Agriculture and Natural Resources Extension Agent. Successful candi-

date will be lecturer rank, non-tenure-track, professional faculty member. Agriculture-and-natural-resource agent positions have area responsibilities in their program specialty. Salary is commensurate with qualifications and experience. Extension agent, Agriculture and Natural Resources, FA849, Crop and Soil Science, Lunenburg County: The position requires basic knowledge of soil science; integrated pest management, including plant physiology, pathology, weed science, and pesticide management; post-harvest management; economics and marketing; production of specific commodities; water quality; bio-technology developments; and field-plot research. Responsibilities: Agents must determine program needs by monitoring trends and issues, involving Extension leadership councils and other leadership committees; design programs to meet needs of target audiences, specify program goals and objectives, and identify resources; inform clientele of program activities; use appropriate technologies to plan and deliver programs through workshops, seminars, conferences, one-on-one visits, on-farm demonstrations, field trips, and tours; maintain knowledge of current research information; use computer applications; develop and implement evaluation plans; recruit and involve volunteers; and report results to clientele, public, and administration. Qualifications: Extension-agent faculty positions require a master's degree (or master's imminent) or a bachelor's degree with significant related experience. A master's degree and positive peer review are required no later than the sixth year of employment. At least one degree in a

(See EMPLOYMENT on 7)

EMPLOYMENT

Continued from 6

discipline related to the subject-matter specialty area is required. Ability to communicate effectively orally and in writing; ability to recruit, train, and manage volunteers; and experience in developing positive interactions with the public are required. Experience in planning, implementing, marketing, and evaluating educational programs is preferred. To apply, submit a letter of intent, a complete resume, official undergraduate and graduate transcripts (copies are acceptable), and three letters of reference. Internal applicants may submit a letter of application, a copy of the most recent faculty report, and three letters of reference. Applications review begins June 30 and continues until position is filled. Send to: Steve Umberger, Virginia Cooperative Extension, 122 Hutcheson Hall (0437), Virginia Tech, Blacksburg VA 24061. Inquiries: 1-7619; TDD user: 1-800-828-1120; fax: 1-5545; e-mail: csowers@vt.edu.

Virginia Cooperative Extension. Agriculture and Natural Resources Extension Agent. Successful candidate will be lecturer rank, non-tenure-track, professional faculty member. Agriculture-and-natural-resource-agent positions have area responsibilities in their program specialty. Salary is commensurate with qualifications and experience. Extension agent, agriculture and natural resources, FA822, Farm Business Management, Fauquier County (with responsibilities in Planning District 9): Ability to develop and deliver educational programs in farm business management, marketing, and financial management to farm business managers, agri-businesses, lenders, producers, and Extension agents; respond to requests for management and marketing assistance; provide economic information and assistance to other federal, state, and local agencies. Responsibilities: Agents must determine program needs by monitoring trends and issues, involving Extension leadership councils and other leadership committees; design programs to meet needs of target audiences, specify program goals and objectives, and identify resources; inform clientele of program activities; use appropriate technologies to plan and deliver programs through workshops, seminars, conferences, one-on-one visits, on-farm demonstrations, field trips, and tours; maintain knowledge of current research information; use computer applications; develop and implement evaluation plans; recruit and involve volunteers; and report results to clientele, public, and administration. Qualifications: Extension agent faculty positions require a master's degree (or master's imminent) or a bachelor's degree with significant related experience. A master's degree and positive peer review are required no later than the sixth year of employment. At least one degree in a discipline related to the subject matter specialty area is required. Ability to communicate effectively orally and in writing; ability to recruit, train, and manage volunteers; and experience in developing positive interactions with the public are required. Experience in planning, implementing, marketing, and evaluating educational programs is preferred. To apply, submit a letter of intent, a complete resume, official undergraduate and graduate transcripts (copies are acceptable), and three letters of reference. Internal applicants may submit a letter of application, a copy of the most recent faculty report, and three letters of reference. Applications review begins June 11 and continues until position is filled. Send to Steve Umberger, Virginia Cooperative Extension, 122 Hutcheson Hall (0437), Virginia Tech, Blacksburg VA 24061. Inquiries: 1-7619; TDD user: 1-800-828-1120; fax: 1-5545; e-mail: BM_3_csowers@vt.edu.

University Libraries. Curator, Historical Manuscript Collections. The department is seeking an energetic, creative librarian who will participate in digital initiatives and promote online access and use of the libraries' manuscripts and rare book collections in the Special Collections Department. Collaborating with the department's 3.5 librarians and 2 library assistants, this librarian works in a team environment to build on existing strengths, particularly the International Archive of Women in Architecture, American Civil War, and N&W Railway Archives. (See <http://scholar2.lib.vt.edu/spec/>

[SpecHighlights2.html](#)). The curator oversees over 7,500 linear feet of manuscript and archival records, 50,000 historical phonographs, and 25,000 rare books; responsible for receiving, organizing, describing, interpreting, making available, and selectively digitizing; oversees conservation management and preservation of material in all formats; contributes to department policy making and planning for implementation of all aspects of manuscripts work. The position focuses on making special collection materials available; developing online and point-of-use reference and finding tools; coordinating departmental activities and staff who process collections, assign meta-data, and scan; oversees on-site and on-line preservation. The curator reports to the Head Scholarly Communications and Special Collections Department. The position is a 12-month faculty appointment; salary/rank commensurate with experience and credentials. Librarians at Virginia Tech hold faculty continuing appointment. Qualifications: Experience in providing public service and curating manuscript collections; ALA accredited MLS degree or equivalent; second master's degree preferred; knowledge of manuscript/archive administration including appraisal, processing (arrangement and description), preservation, outreach and donor relations; ability to apply electronic library technologies to the traditional functions of special collections, including access and instructional outreach. Excellent oral and written communications skills; prefer some foreign language skills, preferably German. Candidates must provide credentials and references that give evidence of the ability to work well independently and with colleagues in a rapidly changing and demanding academic environment. Finalists invited for interview must demonstrate communication skills and knowledge of manuscript collection issues through a presentation to library faculty and staff members and members of the university community. Send letters of application, resume, and names, addresses (including e-mail), and phone numbers of at least three references to Cathy Pillow, Personnel Services, University Libraries, Virginia Tech, P.O. Box 9001, Blacksburg VA 24062-9001. Applications review begins Aug. 10, 1999.

Department of Athletics. Director of Student Life. The director will report to the associate director of athletics for administration. The director has supervisory responsibility for the coordinator of student life. Duties and responsibilities include: development, planning, administration, and coordination of the Athletic Department's programs for student athletes, which encompasses the student athletes transition to college life, their involvement with all facets within the university and community, and eventually into meaningful careers. Responsible for the implementation and oversight of the Comprehensive Action Plan. Other duties and responsibilities include development of programs to enhance career awareness and job placement opportunities for student athletes; development and coordination of employment skills programs using career job forums and workshops; development and administration of outreach activities within the community; development and coordination of the implementation of all wellness educational programs (i.e., etiquette, nutrition, eating disorders, drug/alcohol, and sexually transmitted disease seminars, etc.); assists coaches with recruitment of student athletes; interacts with the University Counseling Services in matters pertaining to student athletes; participates with the Virginia Tech Athletic Fund (Hokie Club) with activities that effect the positive status of student athletes; supports adherence to all departmental, university, conference, and NCAA rules and regulations pertaining to student athletes; coordinates summer internship programs; attends athletics events when possible; other duties as assigned by the associate director of athletics for administration or director of athletics. Bachelor's degree in related area required; master's degree preferred. Previous experience working in a NCAA Division I collegiate atmosphere required. Deadline for submission of credentials is June 14, 1999. Interested candidates may submit a resume along with three references to Pamela G. Linkous, Human Resources Coordinator, Virginia Tech Athletics, 359 Jamerson Athletics (0502), Virginia Tech, Blacksburg VA 24061.

Virginia Cooperative Extension. Executive Director of Virginia 4-H Foundation/extension Specialist, 4-H

Youth Development. Position #110010. This is a faculty position, continued-appointment track. The executive director of the Virginia 4-H Foundation is responsible for the planning, design, implementation, and evaluation of a comprehensive resource development/fund-raising program in support of the Virginia 4-H program. The executive director works with and through the Board of Trustees of the Virginia 4-H Foundation to identify, cultivate, and solicit prospective donors, including individuals, corporations, foundations, and public agencies. As a faculty member with VCE, the executive director works as a member of the state 4-H staff and is accountable to the associate director, 4-H and Family and Consumer Sciences. Responsibilities: Augment and coordinate fund raising from individuals, private foundations, corporations, commodity groups, and agencies; coordinate and manage the foundation's fund-raising special events; design and implement an annual donor-recognition event; manage foundation office including support staff, budgets, and endowments; provide leadership for the positive development of the Board of Trustees, including the identification, recruitment, training, and support of board members; regularly communicate foundation activities to trustees, Extension staff, and donors; identify, recruit, and engage volunteers in support of the foundation's fund-raising programs and events; provide specialist support to Extension staff on development and fund raising; serve as 4-H staff liaison to the Extension Communications group to support public-relations efforts. Master's degree required (doctorate preferred) with prior fund-raising experience including directing a capital-development campaign desired. An understanding of basic resource-development strategies including writing grants, developing case statements, and using deferred giving tools necessary. The successful candidate will have demonstrated abilities to communicate orally and in writing and be able to utilize computer technology proficiently. Must also have the ability to work cooperatively within a team. Must possess excellent organizational and interpersonal skills. Previous experiences with board development desirable. Submit a letter of intent, a complete resume, official undergraduate and graduate transcripts (copies are acceptable), and three letters of reference. Internal applicant may submit a letter of application, a copy of the most recent faculty report, and three letters of reference. Applications review begins June 28, and continues until position is filled. Send to John Dooley, Virginia Cooperative Extension, 119 Hutcheson Hall (0419), Virginia Tech, Blacksburg VA 24061. Inquiries: 1-7619; TDD user: 1-800-828-1120; fax: 1-5545; e-mail: csowers@vt.edu.

College of Engineering. Coordinator of Student Support Services. The college is seeking to fill a full-time administrative faculty position responsible for recruiting and retention activities within the college. Responsibilities will include oversight of college recruiting efforts including presentations to prospective engineering students and parents, responding to inquiries from pre-college organizations, supervision of a summer program for high-school women, and coordination of the college open house(s). Retention efforts include supervision of various academic support programs including freshman mentoring programs and a College Success Strategies course for freshmen. The implementation of these programs is facilitated by both professional and student support staff members. The position requires occasional evening and weekend work, and some travel. A bachelor's degree is required, advanced degree(s) are preferred. The successful applicant will have a degree in counseling or a related area or equivalent experience in a student counseling area, and excellent written and verbal communication skills. Experience in making formal presentations to medium to large groups, experience in working with pre-college and college students, and familiarity with Virginia Tech policies and procedures is desired. Salary is commensurate with experience in the \$30,000-\$40,000 range. Applications review begins June 28 and continues until the position is filled. Applicants are requested to submit their resumes to Bevee A. Watford, Chair, Search Committee for Student Support Services, 212 Hancock Hall (0275), Virginia Tech, Blacksburg VA 24061.

IN OTHER NEWS

Three students get Arts and Sciences Dean's Scholarships

By Sally Harris

A computer scientist who loves to teach, a biology/chemistry major who wants to help the elderly, and a physicist who loves music and the beauty of the ordered universe—the College of Arts and Sciences has presented its scholarships to students who want to improve the world.

James Fogarty, Melissa Looney, and Steven Hair have received College of Arts and Sciences Dean's Scholarships of \$2,000 each. Fogarty is a senior computer-science major, Looney is a junior majoring in biology and chemistry, and Hair is a sophomore physics major.

Fogarty's department, computer science, nominated him for his high academic standards, service to the department and university, research experience, cooperative-education experience, excellent high-school record, and enthusiasm for the game of soccer, according to Sandra E. Birch, assistant to the department head. Fogarty has received several departmental scholarships, is a member of the Honors Program and Upsilon Pi Epsilon, the computer-science honorary, as well as Phi Beta Kappa.

He "has devoted hundreds of hours to several tutoring programs," Birch said, including the YMCA Student Programs High School Tutoring Program, which he leads. He has served as

an undergraduate research assistant for Jack Carroll in computer science and is conducting research for an honors thesis in the human-computer interaction field. He has worked three terms at Appropriate Technologies Inc. of Chesapeake.

Looney "has a truly outstanding record as a student and as a member of her community, both here in Blacksburg and in her hometown of Grundy, Va.," wrote Thomas A. Jenssen on behalf of the biology department's Student Awards Committee.

"Pursuing a medical career, Melissa wants to return to her small-town roots to practice medicine, specializing in geriatrics," Jenssen wrote. Jenssen said Looney's "altruistic nature is further reflected in her volunteer activities, such as coordinating the volunteer fair and mentoring college freshmen, chemistry students, and high-school Upward Bound participants." Looney volunteers regularly at a local nursing home and hospital physical-therapy department.

Looney is member of a leadership community at Virginia Tech, is a University Honors Program mentor, and served as a teaching assistant for Upward Bound at Southwest Virginia Community College in Richlands and as

an orientation leader at Virginia Tech. She is a member of Alpha Rho Chapter of Phi Sigma Pi, a national co-ed honor fraternity focusing on scholarship, leadership, and fellowship, and of the Alpha Psi Chapter of Phi Sigma, the biological honor society.

Hair has two major passions in his life—the joy of understanding a bit more about the world in which he lives and "the purest language of emotion," music. As a child, he took things apart to discover how they worked, and he chose physics as a major because it provided "the tools necessary to fundamentally describe the physical process of the universe."

Hair is a member of the University Symphony Band and the Marching Virginians and has earned numerous scholarships. He plans to pursue a career in solid-state physics and computer science.

In addition to the scholarship winners, five finalists received \$500 each. They were Ashley Puig, a sophomore majoring in Spanish and International Studies, Christopher Rhoton, a sophomore majoring in computer science, Janelle Augustus, a junior majoring in biology, Patty Avent, a sophomore majoring in political science, and Kerry Guenther, a senior sociology major.

COMMANDANT

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Abilene, Texas; national strategic-target-list director for the Joint Strategic Target Planning Staff in Omaha, Neb.; assistant director of operations for the Strategic Air Command in Omaha; and member of the chairman's staff group for the Office of the chairman of the Joint Chiefs of Staff in Washington. He has also co-authored a book on strategic planning: *Creating Strategic Vision*.

In his present private-sector job, he leads human resources, finance, legal, travel, security, marketing, and professional staffing operations for a professional staffing company. He also serves as a mentor to several cadets at the Air Force Academy.

During his last Air Force assignment, he supervised a 115-member headquarters staff, leading operations, logistics, safety, and legal experts. He has also served as the representative for the chairman of Joint Chiefs of Staff in White House meetings, has led a \$20-million program that taught 14 European nations to interact with NATO and the United States, and has overseen the operations of 55 different aviation organizations, which employed 50,000 people throughout the United States, Asia, Europe, and Latin America. Additionally, he has overhauled a headquarters' total quality management system, which reduced contract costs by 40 percent, and has developed and implemented a comprehensive strategic-planning system that now guides U. S. engagement activities with 83 countries throughout Europe and Africa.

A former pilot and flying instructor, he has 4,000 hours flight time and is rated as a command pilot. He has flown B-52, OV-10, FB-111, F-111D, B-1B, and C-130 aircraft.

Allen, whose retirement from the Air Force was effective in March 1998, holds an MBA in management from Golden Gate University and a bachelor's degree in engineering management from the U.S. Air Force Academy. He has completed courses at the Naval War College and a year-long study of international political and economic issues at MIT.

Among his military awards and decorations are the Defense Superior Service Medal, Legion of Merit, Meritorious Service Medal, Air Medal, and Air Force Commendation Medal, all with one or more oak-leaf clusters, and the Distinguished Flying Cross. He was also recognized by the chairman of the Joint Chiefs of Staff for superior accomplishments and the "highest qualities of leadership, professionalism, and dedication in dealing with the nation's most pressing security matters."

Musser retired as commandant at the end of the 1998-99 academic year after serving longer than any commandant in the history of the Virginia Tech Corps of Cadets. Musser, one of the most decorated general officers in the United States, led a resurgence in Corps membership and completely revamped Corps training methods during his 10 years at the university.

TECH

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tape and CD ready. "And we're eager to collect data so we can see how ETD programs work elsewhere."

During panels and discussion of student training issues, Joseph Moxley, English professor at the University of South Florida issued a challenge to address the quality of writing. He asked the audience, "How many of you are very satisfied with your students' theses and dissertations, or with the one's you've seen?"

"If I'd known 10,000 people might read my dissertation, I would have spent more time on it," he admitted. "When we move to electronic theses and dissertations, we need to do writing training."

Bob Hall, who just earned his master's degree at Virginia Tech and who spent his time at the university training students in how to prepare ETD's, reported that "80 percent of the problems are with basic word-processing skills." He has divided training sessions into novice and advanced sections, but said the best training comes in a hands-on lab.

One problem, he said, is that the ETD is done last, then the student is gone, "so there's no one to pass on advice and skills."

Fox said "We are extending Virginia Tech's effort, making it more possible for students to use multi-media in final defense presentations, which is an important skill. But students must start planning earlier and not consider the presentation and the document just a last step." Issues and challenges for academic libraries include when to remove an embargo. Gail McMillan said there needs to be a statement that unless the library hears from the contrary, the ETD will be made accessible after predetermined period of time. Other issue include interlibrary loans when there is no hard copy, and archiving.

There was extended discussion about UMI, now called Bell & Howell Information and Learning. They have no particular incentive to keep electronic archives of low-circulation material. The On-line Computer Library Center, Inc. (OCLC) was suggested as an alternative for an

outside archiver. Fox said, "The OCLC Board of Directors represents university libraries and it does offer expanded access compared to UMI, but they also have to balance the budget."

Fox reported that Virginia Tech has invested \$250,000 in a system with 2.5 terabytes of disk storage and 100 processors to use as a high-speed backbone for the ETD archive.

There was confidence that new technologies will automatically create bibliographies and catalog entries, and that there will be professional information gatherers devoted to solving archiving issues.

"Digital libraries are super information systems that let the world in 24 hours a day, seven days a week, from the desk top," Fox said. "How do we make them more sustainable? It's an important question because they preserve our heritage and our knowledge, and are crucial to the economic development of our countries. It's a domain of international collaboration."

"We have invested billions of dollars in our universities, in student training, in technology infrastructure...let's leverage it," Fox said. He discussed SMETE (science, math, engineering, technology, education) Library, an NSF project to build a national digital library to support undergraduate education

(www.dlib.org); Virginia Tech Libraries' research project to build a library-catalog-search system called MARIAN; the computing-science teaching center (www.cstc.org); work on new hypertext mark-up languages, such as XML and MARC, and work by German universities and learning societies on math and chemistry mark-up languages; and NUDL (Networked Universities Digital Libraries), an international organization doing research, working with publishers, creating a test bed, and documenting the effect of ETD's on education and others, such as whether faculty members and graduate students are using information in ETD's and whether collaborations are resulting.

Fox said the educational goals of the NDLTD are to help retain ABD (all but dissertation) students; improve writing, such as by use of editing tools; improve document organization, such as through outlining tools; improve libraries, and provide constant support for faculty members as well as students.

For more information, visit the NDLTD web page at www.ndltd.org/.

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