

# SPECTRUM

Virginia  
Tech  
VIRGINIA POLYTECHNIC INSTITUTE AND STATE UNIVERSITY

VOLUME 22 NUMBER 2 FRIDAY, SEPTEMBER 3, 1999

TODAY'S EDITION  
See page 2 for  
football traffic  
information.

## Tech advances in *US News* undergraduate rankings

By David Nutter

The *U.S. News and World Report* rankings of undergraduate programs was released last week and Virginia Tech has moved up significantly in the rankings.

Virginia Tech is ranked 28th among top national public universities. Last year, Virginia Tech was ranked 40th.

"While it is always more comforting to be up in the rankings than down," said Larry Hincker, associate vice president for University Relations, "everyone in higher education appreciates the difficulty in quantifying institutions of this size and

complexity. But we live in a overly communicated world, and the *U.S. News* rankings are important for prospective students and their parents in assessing the quality of an institution."

According to *U.S. News and World Report*, the College of Engineering was ranked 18th in the nation of schools with Ph.D. programs. The college was ranked 21st in the nation last year.

The Pamplin College of Business was ranked 45th in the nation of undergraduate business schools out of 327 accredited schools. Pamplin moved up one notch from when the business-school rankings were last published

in 1996. Pamplin's 45th ranking puts it in the top 5 percent of the 1,200 undergraduate business programs in the country.

In the March issue of *US News and World Report's* ranking of graduate programs, Virginia Tech's Center for Public Administration and Policy (CPAP) was ranked in the top 20 nationally for its master's degree in public administration and public policy. In public-affairs specialties, CPAP was ranked tenth in public management and administration. The CPAP numbers were left out of the graduate-school rankings story.

The Center for Public Administration and Policy focuses on the amelioration of public-sector problems and the enhancement of public service at local, state, and national levels. The interdisciplinary programs consist of master's and doctoral graduate studies, basic and applied research, and a broad range of public-service outreach and continuing-education activities. CPAP programs are offered at the Blacksburg campus, at the university's Northern Virginia Graduate Center in Falls Church, and at other off-campus locations.

## Presidential search moving forward

By Dave Nutter

The chairman of the Presidential Search Committee, Tom Rust, gave the Board of Visitors an update on the status of the search at its August meeting.

Rust, the vice rector of the board, told the governing body of the university that the process had identified some 40 candidates from across the United States with many individuals currently serving in senior positions.

"A number of the candidates are currently serving as presidents of universities and others serve in high academic and administrative positions. This is a strong candidate pool," Rust told the board.

Since the BOV meeting, the search committee has met and reviewed the candidate pool. The committee has narrowed the list to nine candidates.

Rust said that during the next month, the committee will conduct confidential interviews with each of the candidates. From these interviews a final pool of three to five candidates will be selected and transmitted to the Board of Visitors by mid-October.

"It is my understanding that the Board of Visitors could consider the appointment of the next president at its November 8 meeting," Rust said.

"At this stage of the process, it is very important to ensure confidentiality for the men and women we are looking at," he said. "All of our candidates hold top positions. To have their names revealed could put them in a difficult situation with their current position and thus limit our ability to get the best candidate possible."

### President to Address University Community

President Paul Torgersen will address the university community October 26, at 4 p.m. in the Donaldson Brown Center auditorium. The president's Report to the University Community will include his perspective on the state of the university, the successes and failures of the last six years, and the challenges facing the university in the coming decade. There will be a question-and-answer session following the president's report.



**LONG-TERM MAMMAL STUDY** Associate Professor of Biology Jack Cranford shows a graduate student how to apply an ear tag to a small rodent. The tagging is part of a long-term study of the small-mammal community Cranford is conducting at the University of Virginia's Biological Monitoring Station at Mountain Lake. Cranford is curator of the mammal collection at the Virginia Museum of Natural History at Virginia Tech. (B. Veltri)

## Three engineering researchers win NSF career-development grants

By Liz Crumbley

Virginia Tech engineering faculty members who are studying growth factors in human cells, compressing and speeding up image transmissions, and developing single semiconductor chips that can house personal-communications systems have received National Science Foundation (NSF) Faculty Early Career Development Program awards this year.

These four-year grants, worth about \$200,000 each, are presented annually to a select roster of faculty members nation wide who have demonstrated early in their careers the potential to make significant contributions to engineering research and instruction. Only about 350 are awarded annually.

Kimberly Forsten, assistant professor of chemical engineering (ChE), and Amy Bell and Sanjay Raman, assistant professors of electrical and computer engineering (ECPe), will use the CAREER grants to advance undergraduate and graduate education as well as research at the university.

As an undergraduate in ChE at Virginia Tech, Forsten originally planned to go to medical school, but after working with Professor Brian Hanson in chemistry she realized that she could make a more meaningful contribution by pursuing biomedical research rather than clinical medicine.

After earning her master's of engineering from the University of Pennsylvania and Ph.D. in chemical engineering at the University of Illinois, she obtained a National Institutes of Health research fellowship in biochemistry at Boston University's School of Medicine.

This interdisciplinary background prepared Forsten to tackle the challenge of unlocking an elemental biological mystery—the workings of growth factors in human cells.

Forsten uses experimental and mathematical modeling to study growth factors—the substances that affect growth, migration, differentiation and adhesion—in endothelial cells, which are the cells that line blood vessels and separate

(See *ENGINEERING* on 3)

## Pamplin revises student procedures

By Sookhan Ho

Seeking to manage the dramatic increase in its undergraduate enrollment and, in particular, the high demand for its management-science and information-technology major, the Pamplin College of Business has revised its procedures for changing majors and for obtaining upper-division clearance.

"We wish we could teach all the students who want to earn an undergraduate degree in the college, but we simply don't have the resources," said Pamplin Dean Richard E. Sorensen. "While our undergraduate enrollment has grown considerably—up more than 40 percent in five years, from 2,400 in fall '94 to more than 3,500 this fall—we have received only a four-percent increase in the number of on-campus faculty positions. The number of entering freshmen and external transfer students is more than we can effectively handle."

Norrine Bailey Spencer, associate dean for undergraduate programs, said students (See *PAMPLIN* on 3)

### Movie Stars Need Apply

A film production company making a movie about the life of Robert Pamplin Jr. will be on campus the week of September 12 filming at various locations.

The film will be casting extras from 10 a.m. to 6 p.m. on Thursday, Sept. 9, and Friday, Sept. 10, in Donaldson Brown conference room C. There will be an additional casting session at the DBHCC Saturday, Sept. 11, from 9 a.m. to noon.

The film takes place in 1960 and a couple of hundred extras will be needed. Although most will be college-age males, the casting director is also looking for people in their 40s and 50s for a college Parent's Day scene, which most likely will be shot on a Thursday afternoon. No experience is necessary.

Those interested should go to the DBHCC during the scheduled time and ask for Marsha Wolfe Talent Link. More details on the campus filming will be provided in next week's *Spectrum*.

# ACTIVITIES

## EVENTS

### Friday, 3

YMCA Open University Registration, 9 a.m.-6 p.m., YMCA Office.

### Saturday, 4

Football, 1 p.m., Lane Stadium: JMU.

### Monday, 6

Labor Day Holiday for Staff.

### Wednesday, 8

Family Support Program, noon-1 p.m., DBHCC conference room C; Sgt. Jerry Bowyer, Blacksburg Police.  
Diggs Scholars Roundtable Discussion, 3:30-5:30 p.m., Owens Banquet Hall.

"With Good Reason," 7 p.m., WVTF: Topic TBA.

### Thursday, 9

CEUT Faculty Study Groups, 3:30-5 p.m., Owens Banquet Hall: Organizational meeting.

## SEMINARS

### Friday, 3

Highlands in Chemistry, 11 a.m., 3 Davidson: Denver Hall, North East Wales Institute.  
Botany, 4 p.m., 1076 Derring: Jerry Via.

### Monday, 6

Biomedical Engineering, 3-4 p.m., 114 Holden: by Michael Laurence, U.Va.

CSES, 4 p.m., 232 Smyth: Alan Moore.

Horticulture, 4-5 p.m., 409 Saunders: Xiaohong Zou.

### Thursday, 9

CEUT, 12:30-2 p.m., Hillcrest Dining Room.  
Geological Sciences, 4 p.m., 2044 Derring: Patricia Dove, Georgia Tech.

### Friday, 10

Highlands in Chemistry, 11 a.m., 3 Davidson: Richard Helm.  
Materials Science and Engineering, 3 p.m., 114 Holden: Robert Kelly, U.Va.  
Botany, 4 p.m., 1076 Derring: Bruce Parker, Orson Miller and Thomas Weiboldt.

## BULLETINS

### Tech community offered discount

Because Virginia Tech is a sponsor of Virginia Internet Technology Week '99 on September 13-17, all members of the faculty and staff, as well as students will receive a discount of \$100 off the full-day professional development seminars and \$75 off the half-day seminars.

Details can be found at <http://manta.cs.vt.edu/vit/>. There is no discount on the opening-day event on September 13, but the Internet2 Day event on September 17 is free. Registration is required for Internet2 Day.

For more information, contact Tom Caruso at 1-6771 or [tcarus@vt.edu](mailto:tcarus@vt.edu).

### Website encourages undergraduate research

A new web site on the Virginia Tech server titled "Undergraduate Research Opportunities" is now accessible: The URL is <http://fbbox.vt.edu:10021/admin/provost/success/URO.html>.

The purpose of the site is to provide undergraduate students with easy access to information about research opportunities both at Tech and elsewhere. The information is organized according to college and department where possible. There is also a section on interdisciplinary programs and additional links to other research opportunities.

Objectives are to foster an appreciation for research among students who will in time become community leaders and decision makers, and to further the land grant definition of generating and distributing knowledge. Contact Elaine Humphrey ([elaine@vt.edu](mailto:elaine@vt.edu)) with information about additional undergraduate research opportunities that can be included.

### Australian professor to speak

The School of Public and International Affairs in the College

of Architecture and Urban Studies at Virginia Tech will hold a public lecture by professor John Dryzek on Monday, Sept. 6 at 7 p.m. in 113 McBryde.

Dryzek, from the Department of Political Science at the University of Melbourne, is an internationally acclaimed scholar.

A reception sponsored by the Department of Urban Affairs and Planning will follow the public lecture. Dryzek will also present at a faculty seminar September 7 at 4 p.m. on his work in eastern Europe. Contact James Bohland, at 1-5517 or [jaxon@vt.edu](mailto:jaxon@vt.edu) for information.

### BEV offering HTML class

The Blacksburg Electronic Village is offering a one-day class in basic HTML for faculty and staff members on October 20 at the BEV Office.

Students should be familiar with word processing and be comfortable with using the keyboard and mouse. The cost of the day-long workshop is \$160. For more information, contact Roy Jones at [royjones@vt.edu](mailto:royjones@vt.edu), or 1-9448.

### Caregivers sought for study

Shannon E. Jarrott, an assistant professor in human development at Virginia Tech, has begun a year-long study on caregiving. Jarrott's study proposes an analysis of how the amount of help that family caregivers receive affects their perceived stress and well-being. The study consists of two phone interviews, approximately two months apart. The study will continue into next spring. Interested participants can reach Jarrott at 1-5434 or [sjarrott@vt.edu](mailto:sjarrott@vt.edu).

Jarrott will discuss support as a critical link in family caregiving to kick off the gerontology forum series on Thursday, Sept. 23 from 3:30-4:30 p.m. in Fralin auditorium. This presentation is the first of three topics to be presented this fall in conjunction with Virginia

Cooperative Extension.

On October 14, Tammy Henderson will focus on grandparent visitation rights. On November 4, Katherine Allen will discuss the topic, "Diversity in Older Adults' Lives, Past, Present, and Future."

The forums are open to the public. For more information, call 1-7657.

### Diggs Scholars present discussion

Newly named Diggs Teaching Scholars will participate in the seventh annual Diggs Roundtable Discussion on Wednesday, Sept. 8, from 3:30-5:30 p.m. in Owens Dining Hall. The topics to be presented will be about teaching at Virginia Tech and have broad applications across all disciplines.

Those planning to attend should register with the Center for Excellence in Undergraduate Teaching at [CEUT@vt.edu](mailto:CEUT@vt.edu), or by calling 1-4254.

### Seminars help GA's prepare to teach

The CEUT will also hold a 10-week seminar for graduate assistants titled Preparation for Teaching (EDCI 5774). The seminars begin Thursday, Sept. 9, from 12:30-2 p.m. and continue through November 18. GA's will meet with experienced faculty members for discussions of strategies, concerns and styles. Interested graduate students should contact [CEUT@vt.edu](mailto:CEUT@vt.edu) or call 1-4254.

### Faculty study groups kick off meeting

CEUT's on-going faculty study group (FSG) offers the opportunity for faculty members to join study groups focused on teaching. The first meeting is Thursday, Sept. 9, from 3:30-5 p.m., in Owens Dining Hall. Meetings take place approximately twice monthly.

## Football game changes parking, traffic patterns

Parking and traffic changes will take place Friday, Sept. 3 and Saturday, Sept. 4 for the home football game. The procedures are the same as used for the last several years.

On the Friday before a game, parking will be prohibited after 5 p.m. in the following lots: Litton Reaves/Wallace Lots (located off Washington Street and Duck Pond Drive), Coliseum Lot (located off Washington Street and Spring Road), the gravel lot located behind the Jamerson Center, and the Stadium, Track/Soccer, and Maintenance Lot (located off Spring Road and Southgate Drive). Parking will also be prohibited on Spring Road and Washington Street (from the Coliseum to the tennis courts). Vehicles will be removed from these lots and streets after 10 p.m.

At noon Saturday traffic on Washington Street, Tech Center Drive, Southgate Drive, Spring Road will become one way (See FOOTBALL on 4)

## Orth selected for interim appointment

By Lynn Davis

Donald J. Orth has been appointed as interim department head of fisheries and wildlife sciences in the College of Natural Resources by Dean Gregory N. Brown. His appointment is effective October 1 and will continue until the search has been successfully completed for a new department head.

Orth follows Brian Murphy who served in this capacity for five years. Orth joined the Virginia Tech faculty in 1980; he specializes in research on stream-habitat analysis and fish-population dynamics. He spent one year as visiting scientist with Oak Ridge National Laboratory.

Orth, a fisheries professor, is coordinator of graduate programs in fisheries and wildlife and served previously as fisheries-section coordinator. His research has attracted approximately \$2.5 million in research contracts and grants and produced 65 journal articles in collaboration with 21 graduate students and numerous undergraduate students.

(See ORTH on 4)

## Season tickets now offered to students

By Catherine Doss

Starting in this fall, the university will implement several new ticket-distribution policies designed to maximize the number of students gaining admittance to football games. The policies will be implemented for a one-year trial period and then evaluated to consider permanent implementation.

For the first time, students will be able to purchase season football tickets that will guarantee them a seat at every home game. The price for students is \$42. Regular season passes sell for \$138. Under the current distribution policy, students receive tickets on a seat-available basis for each game. The cost of the tickets is covered in their student fees. Based on demand, seats will be reserved in the student section for those wishing to purchase a season ticket.

"This new option provides guaranteed seats at every home game for those students who want to pay a little more," said Lanny Cross, vice president for student affairs. "Those who don't wish to purchase season tickets will con-

(See SEASON on 4)

## Beisecker named Cranwell interim director

By Catherine Doss

Kim Beisecker has been named interim director of the Cranwell International Center effective immediately and continuing through May 15, 2000.

Since 1995, Beisecker has been director of international programs for the YMCA, which holds an office in the Cranwell center. In this position, she managed and presented support programs for families of the university's international students and organized cultural training programs within the community.

Beisecker holds a bachelor's degree in sociology from Clark University in Worcester, Mass. and a master's degree in counseling from Virginia Tech. In addition, she lived several years in Shanghai and Nantong, China.

"We're delighted that Kim has agreed to serve as interim director," said David Ostroth, assistant vice president for student affairs. "She has counseling skills and knows the international community very well."

# 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](mailto: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

**Animal Care Technician C**, 2281T, Grade 7, Biology.

**Chemical Safety Trainer (Health Ed. Sr)**, 7491T, Grade 10, Environmental Health and Safety Services.

**Computer Systems Chief Engineer**, 7104D, Grade 17, Communications Network Services.

**Computer Systems Chief Engineer**, 7493J, Grade 17, Fralin Biotechnology Center.

**Enrollment Services Assistant (Academic Adviser)**, 7485T, Grade 7, Computer Science.

**Enrollment Services Coordinator**, 0049J, Grade 10, Graduate School.

**Enrollment Services Coordinator**, 0049J, Grade 10, Graduate School.

**Executive Secretary**, 2021M, Grade 6, College of Veterinary Medicine—Large Animal Clinical Sciences.

**Executive Secretary**, 7501J, Grade 6, Office of the President.

**Executive Secretary**, 6416G, Grade 6, Public Service Programs.

**Fire Safety Engineer**, 7488T, Grade 12, Environmental Health/Safety Services.

**Fiscal Assistant**, 435P, Grade 5, Physical Plant.

**Fiscal Assistant**, 6580P, Grade 5, Student Accounts.

**Nine full-time food operations positions available;** three part-time.

**Graphic Designer**, 2076D, Grade 9, Publications/University Relations.

**Housekeeping Worker Senior**, 0269H, Grade 3, Residential/Dining Programs.

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

**Housekeeping Worker**, 1021H, Grade 1, Residential/Dining Programs.

**Laboratory Specialist**, 7245M, Grade 8, Biochemistry.

**Laboratory Specialist**, 7474M, Grade 8, Biochemistry.

**Laboratory Specialist**, 3428M, Grade 8, Veterinary Medicine.

**Mason Plasterer**, 6790P, Grade 7, Physical Plant.

**Mason Plasterer**, 833P, Grade 7, Physical Plant.

**Occupational Safety Trainer (Health Ed. Sr)**, 7489T, Grade 10, Environmental Health/Safety Services.

**Office Services Specialist**, 3508J, Grade 5, Chemical Engineering.

**Oracle DBA**, 7433D, Grade 14, AIS.

**Pharmacy Supervisor**, 6516M, Grade 15, Veterinary Teaching Hospital.

**Power Plant Shift Supervisor**, 335P, Grade 8, Power Plant.

**Program Support Technician**, 6624S, Grade 6, University Libraries.

**Programmer/Analyst**, 2917D, Grade 12, Computing Center.

**Programmer/Analyst**, 7426D, Grade 12, Educational Technologies.

**Public Relations Asst Specialist**, 6996C, Grade 8, University Relations/WVTF Public Radio.

**Secretary Senior**, 2837M, Grade 5, College of Veterinary Medicine.

**Television/Video Producer Director Senior**, 2324D, Grade 12, University Relations.

**Television/Video Producer/Director**, 5362D, Grade 10, University Relations.

**Warehouse Worker**, 7360P, Grade 4, Surplus Property.

### Part Time

**Animal Care Technician B**, W022218M, Grade 5, Veterinary Teaching Hospital.

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

**Housekeeping Worker**, W020574G, Grade 1, DBHCC.

**Housekeeping Worker**, W022490H, Grade 1, Residential/Dining Programs.

**Laboratory Specialist**, W022855M, Grade 8, Veterinary Teaching Hospital.

**Office Services Assistant**, W022850S, Grade 4, University Library.

**Office Services Assistant**, 6895T, Grade 4, Center for Interdisciplinary Studies.

**Office Services Assistant**, W022874C, Grade 4, Office of Family Support.

**Office Services Assistant**, W022870P, Grade 4, Physical Plant.

**Office Services Assistant**, W022875T, Grade 4, Undergraduate Admissions.

**Office Services Assistant**, W0228835S, Grade 4, University Libraries.

**Office Services Specialist**, W022276P, Grade 5, Bursar.

**Office Services Specialist**, W022322T, Grade 5, Undergraduate Admissions.

**Program Support Technician**, W022538M, Grade 6, Animal/Poultry Sciences.

**Programmer**, W022878M, Grade 10, College of Veterinary Medicine.

**Public Relations Assistant Spec/Radio News Announcer/Reporter**, W020344C, Grade 8, University Relations/WVTF Public Radio.

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

**Research Specialist**, W022865M, Grade 8, Fisheries/Wildlife Sciences.

**Research Specialist**, 4540M, Grade 8, Horticulture.

**Security Guard (Dorm Watch)**, W020470T, Grade 2, Police.

**Storekeeper**, W022291M, Grade 4, Veterinary Teaching Hospital.

### University Only

**Office Services Specialist**, ULC068P, Grade 5, Hokie Passport.

### Off Campus

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

**Program Support Technician**, 6652M, Grade 6, Virginia Cooperative Extension-Culpeper.

## FACULTY POSITIONS

### INSTRUCTIONAL

**Department of Electrical and Computer Engineering. Tenured and/or tenure-track faculty members at all levels.** Contact W. L. Stutzman, Bradley Department of Electrical and Computer Engineering (0111) Applications accepted until March 31, 2000 or until suitable candidates selected.

### NON-INSTRUCTIONAL

**Center for Academic Enrichment and Excellence. Program Coordinator for McNair Program.** Contact: Anita Price, 110 Femoyer Hall (0276). Review begins September 15 and continues until position filled.

**Virginia Cooperative Extension. Extension Agent, Family and Consumer Sciences.** Position #FA628, Nutrition and Wellness, Surry County. Contact: John Dooley, Virginia Cooperative Extension, 122 Hutcheson Hall (0437). Review begins September 27, and continues until position filled.

**Virginia Cooperative Extension. Extension Agent, 4-H Youth Development.** Position #11808. Half-time position in Craig County. Contact: John Dooley, Virginia Cooperative Extension, 122 Hutcheson Hall (0437) Review begins September 27, and continues until position filled.

## ENGINEERING

*Continued from 1*

blood flow from underlying tissue. Growth factors generally act by binding to specific cell-surface molecules, she said, and this binding initiates a biological response.

"Our goal is to determine how growth factors can be effectively transported from blood to the underlying tissue," Forsten said. Understanding this could enable researchers to devise methods of using growth factors to transport

therapeutic agents to hard-to-reach areas, such as parts of the brain, or to target malignant tumors more precisely. Growth factors also play an important role in wound healing and the development of new blood vessels.

The educational component of Forsten's CAREER grant project will include developing a biotechnology track of elective courses for ChE undergraduates.

Forsten, who appreciates the importance of teaching skills, also plans to take an unusual step with a few graduate students. She will create an independent study course designed to teach graduate students how to teach. Bell began her work in the field of electronic signal processing as a doctoral candidate at the University of Michigan. Since joining the Virginia Tech faculty in 1997, Bell has expanded her research into the area of image compression. This is the goal of her research: to find a way to compress images that will make the original material that is lost imperceptible, both to the human eye and electronic equipment.

This advance would have numerous applications. The wireless industry could produce cellular phone-sized handsets that would download images from computers and perform true multi-media tasks, giving the user access to audio and video. Medical images, such as those produced by CAT scans and MRI's, could be stored and retrieved far more efficiently.

Bell also plans to use her CAREER grant to benefit ECpE students. She will incorporate elements of her research in a senior design course, giving the undergraduates an opportunity to develop research-based projects.

As a Ph.D. student at the University of Michigan, Raman fabricated a millimeter-wave radar receiver—including antennas and receiving circuitry—on a single-integrated-circuit (IC) chip.

With the support of the NSF grant, Raman will attempt to develop methods of directly integrating antennas with the electronics used in wireless devices, such as cellular phones, on

single IC chips. The ultimate goal of this line of research is to put all of the components of wireless technology on single-chip systems.

This technology will have a myriad of other applications. For example, Raman said, environmental sensors on chips could be placed easily and inexpensively throughout buildings to monitor temperature and other conditions and radio messages back to a central control computer. These wireless distributed sensors would be particularly useful on military ships and aircraft, freeing personnel from having to make manual checks on equipment conditions.

He also foresees medical applications. "Chips could be embedded in at-risk individuals to monitor for impending heart attacks and alert medical personnel via wireless communications before an attack actually occurs."

The CAREER grant also will enable Raman to develop a graduate course in radio frequency integrated circuit design. With this added educational component, he said, Virginia Tech will offer one of the most comprehensive communications-technology curriculums in the world.

## PAMPLIN

*Continued from 1*

gain access to business majors and courses through admission as freshmen, admission as transfer students, change-majors, and upper-division clearance, but "our only points of college control are the last two."

The college's procedures for changing majors and getting upper-division clearance (which had largely remained the same during the past 15 years) "no longer serve us well," she said. "Not only do we have many more students than we can teach, we are not getting the strongest students because of some inequities and loopholes in the system."

These were not problems when demand was lighter and more evenly distributed among Pamplin's five restricted majors—accounting, finance, management, management science and information technology (MSCI), and marketing, she said, "but lately we have had big jumps in demand for all majors and an extraordinary jump in demand for MSCI."

The changes approved by Pamplin administrators are in three key areas.

### CHANGE-MAJOR CRITERIA

Effective August 23, students in other colleges or who are economics majors within Pamplin wishing to transfer into a business

major will need to have completed MATH 1525-6, ACIS 1504, and ECON 2005 before they apply.

### CHANGE MAJOR TO MSCI

All students, including current business majors, wishing to change their major to MSCI must now apply. (Students who are already MSCI majors are not affected.)

In addition to the need to apply for MSCI, the criteria for MSCI will include CS 1044 (in addition to ACIS 1504, MATH 1525-6, and ECON 2005.)

Finally, students who transferred from outside the college into a restricted Pamplin major must wait a full semester before applying to change to MSCI. This new measure, which takes effect this fall semester, will eliminate an existing loophole, she said. Some students who had been accepted into a restricted major that was less competitive than MSCI had then switched from that major into MSCI the following week.

### UPPER-DIVISION CLEARANCE

For upper-division clearance, students must have earned a grade of C- or higher in MATH 1525-6 or its equivalent; ACIS 1504, 2115-6; ECON 2005-6; and MSCI 2405-6. This change takes effect this fall and will not apply to courses taken before this semester.

For more information, call the Undergraduate Programs Office at 1-6602.

Virginia  
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VIRGINIA POLYTECHNIC INSTITUTE  
AND STATE UNIVERSITY

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## More news on Spectrum's web page

### A summer of news

Out of touch this summer? Read a recap of the top news stories of the summer.

### Virginia Tech researchers create new family of molecule, solve fullerene processing mystery

Virginia Tech professor Harry Dorn and post-doctoral fellow Steve Stevenson report in the September 2 issue of *Nature* they can produce metallofullerenes cheaply and with high yield.

### Book identifies inappropriate behaviors in college teaching

The authors determined and defined consensus among faculty members in several disciplines and at several kinds of colleges and universities.

### VMRCVM hires specialist, creates human/animal interaction program

Marie Suthers-McCabe's high-energy, cheerful smile and "can-do" attitude will preside over the development of an innovative new academic program in the Virginia-Maryland Regional College of Veterinary Medicine.

For the full-length versions of these articles and all the information in this week's *Spectrum*, go to: <http://fbbox.vt.edu:10021/news/Spectrum1>.

### Religious, ethnic holidays listed

University officials have provided the following information regarding religious and ethnic holidays for the 1999-2000 academic year:

First Day of Rosh Hashanah (Jewish New Year) is September 11. (begins at sunset, 9-10-99)

Yom Kippur (Jewish Day of Atonement) is September 20. (begins at sunset, 9-19-99)

Diwali (Hindu Festival of Lights) is November 7.

First Day of Ramadan (Islam month of fasting) is December 9.

Id al-Fitr (Islam Ramadan ends) is Jan. 8, 2000.

Martin Luther King Day is Jan. 17, 2000.

Ash Wednesday (Christian Lent begins) is March 8, 2000.

Palm Sunday is April 16, 2000.

Pesah (Jewish Passover begins) is April 20-21, 2000. (begins at sunset, 4-19-00)

Good Friday is April 21, 2000.

Passover ends April 26-27, 2000. (begins at sunset, 4-25-00)

Yom haShoah (Holocaust Day) is May 2, 2000.

### FOOTBALL

*Continued from 2*

toward the football stadium. Traffic on Duck Pond Drive will become one way toward B-Lot. After the game the streets directions will reverse until the traffic flow returns to normal.

There are new procedures this year regarding fees. The public will be charged \$5 for parking during football games. This only applies for vehicles not displaying a valid Tech parking permit. Displaying a permit allows access without charge. The lots used by the public will be: B-lot (large commuter lots off Prices Fork Road), and Derring, Davidson, Solitude, Price/Saunders, and Engel/Harper all along West Campus Drive. On campus, Blacksburg Transit will run shuttles from the public parking area of B-Lot (located off Perry Street) to Cassell Coliseum starting two hours before the game. Shuttles will leave every 10 minutes.

Person driving to and from the game can tune to 1260 AM, the future Virginia Tech Traveler Information Station, for live traffic updates and advisories.

For more information, call Parking Services at 1-3200 or, after regular business hours, the University Police Department at 1-6411.

## IN OTHER NEWS

### Equine programs benefit from private sector resources

*By Jeffrey S. Douglas*

The Virginia Horse Industry will soon begin to reap the benefits of significant equine program enhancements at Virginia Tech which are being supported by two new revenue streams, one from the public sector and one from the private sector.

As a result of the passage of House Bill 590, about \$240,000 of the proceeds from pari-mutuel wagering conducted at Virginia's Colonial Downs and its off-track betting sites this year has been allocated to Virginia Tech to support university programs designed to enhance the health, well-being and performance of both companion animals and equine athletes.

Of this year's \$240,000 allocation, \$150,000 will be earmarked to support the development of new equine teaching and research facilities at Virginia Tech. The remaining \$90,000 will be complemented by \$10,000 from other college resources to provide a \$100,000 allocation for planning and engineering work associated with the development of an isolation facility at the Marion duPont Scott Equine Medical Center in Leesburg.

"Very compelling cases can be made for the immediate development of both of these capital projects, and we look forward to making significant progress on each," said VMRCVM

Dean Peter Eyre. "We are very grateful that the General Assembly and Governor Gilmore created this public/private sector bridge which will benefit citizens from throughout the region."

Under the terms of the legislation, one quarter of one percent from the pari-mutuel pools generated by live horse racing within the state involving win, place and show wagering, and one quarter of one percent from pari-mutuel wagering pools generated by win, place and show wagering at satellite facilities will be dedicated for equine research and marketing programs at Virginia Tech, the Virginia Horse Industry Board, and the Virginia Horse Center in Lexington.

Sixty percent of that amount is earmarked for programs in the Virginia-Maryland Regional College of Veterinary Medicine, the Marion duPont Scott Equine Medical Center at Morven Park and Virginia Tech's College of Agriculture and Life Sciences.

In addition to the capital projects supported by the new public funds, portions of a \$2.7-million gift from the estate of the late Patricia Bonsall Stuart of Albemarle County are supporting several new equine research projects conducted by faculty members on both the Blacksburg and Leesburg campuses.

The nearly \$2.7-million gift was divided equally between the university's College of

Agriculture and Life Sciences and the Virginia-Maryland Regional College of Veterinary Medicine. The VMRCVM has used its \$1.34-million portion of the gift to establish an endowment that will support equine research.

A committee of faculty members has met and made the first round of research-project allocations. A total of \$35,108 in funding this year was awarded from interest generated from the endowment.

Project funding was allocated to Martin Furr, \$10,000; Rick Howard, Department of Large Animal Clinical Sciences, \$10,000; Michael Murray, Equine Medical Center, \$6098; and Nathaniel White, \$9010.

"Our college operates well-established research, clinical and instructional programs on both of our Virginia campuses," Eyre said. "Our goal is to transform the Stuart's generosity and love for the horse into a meaningful and lasting tribute to their love for horses, and we have committed ourselves to do that."

Stuart, who died in 1996, and her husband, Herbert, who died earlier, were avid horse enthusiasts and breeders of quality Arabian horses. They owned and operated a 200-acre farm near Batesville in Albemarle County. She and her husband were among the earliest supporters of a Veterinary College in Virginia, and helped convince state legislators of the need to establish the college.

### Survey says Virginians favor school spending

*By Susan Trulove*

While state and national elected officials debate tax cuts, Virginians favor maintaining or even increasing spending on schools, the environment, and social services, according to Susan M. Willis-Walton, associate director of Virginia Tech's Center for Survey Research.

The eighth annual Quality of Life in Virginia survey conducted by the center found that few Virginians believe the state is spending "too much" on its services. For nine out of 10 spending areas, ranging from improving highways and protecting the environment to providing social services, fewer than 12 percent of citizens say the state spends too much. Only with regard to spending on prisons and jails did a larger proportion (one-fourth of citizens) think

the state spends "too much." More than half of citizens surveyed responded that the state does not spend enough on social services for the elderly, and 57 percent say not enough is spent on public schools (K-12). In fact, 41 percent agree that state taxes should be increased to support public schools—down from 49 percent in 1996.

Regarding spending on colleges and universities, 54 percent thought it was about right and 26 percent thought it wasn't enough. However, 45 percent agreed that taxes should be raised to support public higher education—the same percent as last year.

Virginians like their public colleges and universities, with 87-percent rating the state as an excellent or good place to get a college or

university education. Respondents over age 40 and those with some college education gave Virginia higher education the highest rankings.

Surveyors completed 514 interviews to provide a representative sample of adult respondents in households across Virginia with a margin of error of plus-or-minus 4.4 percent. In other words, if the survey were repeated 100 times, results would vary beyond 4.4 percent in only five out of the 100 surveys.

Copies of the QOL survey are available for \$12 including postage and handling. Make check payable to Treasurer, Virginia Tech, and mail to the Virginia Tech Center for Survey Research, 207 W. Roanoke St. (0543), Blacksburg, VA 24061.

### SEASON

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tinue to access tickets in the same way they have in the past."

Season tickets will be issued beginning August 24 to students with a valid student ID and athletic card in the Athletic Department's Ticket Office. Payment will be required at the time of application. Students wishing to sit together must apply for season tickets at the same time.

Students purchasing a season ticket will not be permitted to purchase accompanying guest tickets with a season ticket. However, a student may purchase one season ticket for a spouse or dependent minor child at the regular-season ticket price. A student season ticket

holder can purchase a guest ticket in the fall in accordance with regular student ticket policies. The guest ticket is then subject to random seating assignment.

In addition to the new student season ticket option, two other new ticket distribution policies will be piloted this fall. The first is that the number of tickets available for group pickup will be limited to 50. The second is that guest tickets will be limited to one per athletic card for potential sell-out games. These games include the October 16 Homecoming game versus Syracuse and the November 13 game versus Miami.

The new ticket distribution policies are the result of a six-month review conducted by the Athletics Department and the Division of

Student Affairs that was prompted by student complaints of not receiving tickets to certain sell-out games. Research indicated that Virginia Tech ranked well among other NCAA peer institutions in its allocation of student tickets. Approximately 17,000 seats are reserved for students, which represents 69 percent of the total student enrollment. Thirty-four percent of the 50,000-seat capacity at Lane Stadium is set aside for students.

"Student input was an important part of the revised distribution policies," Cross said. "The university is really trying to distribute tickets in a way that is most fair for students," Cross said. "The revised policies and student season ticket option seemed to be the most responsive to student needs."

### ORTH

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He was awarded the Certificate of Teaching Excellence for activities and innovations in teaching this year. In 1998 Orth received Virginia Tech's Outstanding Faculty Award. In 1992, he was elected president of one of the most active and visible natural-resources-education groups in North America, the Education Section of the American Fisheries Society.

Since 1996, he has been a member of a faculty group, the Activants, which studies active learning techniques, peer coaching, and other teaching-related issues. During his tenure at Tech, Orth developed the capstone course in the fisheries-science option, a writing-intensive course that contains a class magazine project.

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