

# SPECTRUM



VIRGINIA POLYTECHNIC INSTITUTE AND STATE UNIVERSITY

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**TODAY'S EDITION**  
See page 2 for exemption department nomination information.

## General Assembly in session; Steger addresses commission

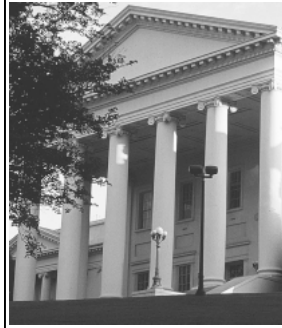
By Ralph Byers,  
director of government relations  
The Virginia General Assembly convened January 12 with a Republican majority in both chambers for the first time in history.

The new Speaker of the House, Republican Delegate Vance Wilkins of Amherst, a Virginia Tech alumnus, succeeded Virginia Tech alumnus Thomas C. Moss of Norfolk. The newly constituted General Assembly faces issues with respect to transportation, school funding, disposition of tobacco-settlement funds, and a host of other questions revolving around the future of the state budget.

The budget bill introduced by Governor James Gilmore on December 17 contained a number of new proposals with respect to funding higher education, including the use of non-General Fund sources to support operating programs, and performance agreements to provide increased accountability for funds received by institutions.

General Fund recommendations for higher education included 2.5-percent and 2.4-percent salary increases for faculty and classified staff respectively, support for the Equipment Trust Fund at the current biennium's level, and funding for capital outlay maintenance reserve. Significant increases in General Fund operating support were provided for George Mason University, Norfolk State University, and Virginia State University. Also recommended in

### GENERAL ASSEMBLY UPDATE



Gilmore's budget is \$20 million for matching funds to increase Virginia's competitiveness for federal and private research funding.

Gilmore also recommended funding for certain institutions of higher education from the tobacco-settlement funds. Under legislation approved last year, tobacco settlement funds are to be divided into three parts: 50 percent to be under the control of the Tobacco Indemnification and Community Revitalization Commission for the purpose of supporting tobacco farmers in transition and for economic

development in the tobacco growing regions; 10 percent for programs to discourage youth smoking; and 40 percent for the General Fund. Gilmore has recommended that the latter amount be used for transportation priorities.

The higher-education projects to be funded from the Tobacco Indemnification and Community Revitalization funds include a program in bioinformatics at Virginia Tech. Gilmore recommended a total of \$12 million in support of this program for the biennium, \$9.9 million in operating and \$1.9 million to construct high-tech greenhouses. Gilmore's recommendation must be approved by the Tobacco Commission. [See accompanying statement by President Charles Steger.]

In addition, funding for the Virginia Microelectronics Consortium was recommended through workforce training funds in the Virginia Employment Commission. If approved, the College of Engineering will receive significant additional funding for microelectronics education and research through this mechanism.

As noted above, the only significant General Fund support for capital-outlay purposes recommended by Gilmore was designated for maintenance reserve. Virginia Tech also received approval from Gilmore to proceed with approximately \$93 million in non-General Fund projects, including the first phase of the bioinformatics facility, the alumni/CEC/hotel center construction, and Lane Stadium expansion, among other projects.

(See GENERAL ASSEMBLY on 3)

### Statement to Tobacco Indemnification and Community Revitalization Commission

The Tobacco Indemnification and Community Revitalization Commission is composed of legislators and citizens from the tobacco-dependent regions of the state. The commission is responsible for disbursement of 50 percent of the funds Virginia is to receive from the tobacco settlement, estimated to be around \$2 billion over 25 years.

The accompanying remarks concerning the proposed bioinformatics program at Virginia Tech were delivered to the commission in Richmond by President Charles Steger on January 11.

It is an honor to be able to share with you in a very few minutes Virginia Tech's interest in working with you to bring about the critically needed economic and educational transition for our tobacco-growing regions. It is for just such purposes that the General Assembly established our institution almost one hundred and thirty years ago.

Before addressing specifically the program whose funding is recommended by Governor Gilmore, I would like to provide a little background that is relevant to the work of your commission. As you may know, Virginia Tech is among the nation's leading institutions in developing new uses for tobacco through genetic engineering. Through the help of Senator Wampler and others, we are currently receiving about \$500,000 per year for research on the use of tobacco for medicinal purposes. Our station at Blackstone, of course, has been a major supporter of the tobacco growers for many years, and we anticipate a similarly important role for this center in the transitional period ahead.

Over the past two years, in cooperation with CropTech, a company in our Corporate Research Center founded by a Virginia Tech professor, we have conducted successful field trials at our experiment stations at Blackstone and Abingdon. It appears that tobacco is almost an ideal factory for the production of many new products through these techniques. CropTech envisions potential uses for as many as 100,000 acres of tobacco for various types of commercial products.

The program for which Governor Gilmore has recommended support from the Tobacco Indemnification Fund represents the next step in the discovery of new and therapeutic products through both plants and animals. You may have seen the recent *National Geographic* magazine with a piglet on the cover—that is a Virginia Tech piglet.

(See STATEMENT on 3)

### Transportation Meeting Today

The university's Transportation and Parking Committee will hold an open meeting today from noon to 1 p.m. in 315 Cheatham to discuss transportation-demand-management (alternative transportation) plans for Fall Semester, 2000. For more information, contact Debby Barbour at 1-1737 or e-mail [debarbou@vt.edu](mailto:debarbou@vt.edu).

## Kiran to head Department of Chemical Engineering

By Liz Crumbley  
Erdogan Kiran, formerly the Gottesman research professor of chemical engineering at the University of Maine, is now head of the Department of Chemical Engineering (ChE) at Virginia Tech.

Kiran, a native of Turkey, received his undergraduate degree from the Massachusetts Institute of Technology, his master's from Cornell University, and his Ph.D. in 1974 from Princeton University. All of his degrees are in chemical engineering.

After conducting research in Turkey for the pulp and paper industry and teaching at Istanbul Technical University and Bogazici University in Istanbul, Kiran joined the University of Maine faculty in 1981. His academic specialties include polymer science and polymeric materials, supercritical fluids and high-pressure processes, and thermal and optical techniques.

In 1987, Kiran became the founding editor of *The Journal of Supercritical Fluids*. He has served as director of two NATO-sponsored Advanced Study Institutes on Supercritical Fluids and as an organizer of numerous symposia and workshops in the field of chemical engineering. He currently

serves as international monitor of *The Journal of Chemical Engineering* of Japan and as editor of *Advances in Supercritical Fluid Science and Technology*, a series of advanced monographs under preparation.

In 1995 he received the University of Maine's Presidential Research and Creative

Achievement Award.

Kiran assumed his post at Virginia Tech at the beginning of spring semester. Bill Conger, who has served as ChE department head since 1983 and is returning to teaching full time, will continue to lend his expertise to departmental operations, Kiran said.

## DOE funds Virginia Tech/Clemson project aimed at producing light-weight auto parts

By Liz Crumbley

The U.S. Department of Energy (DOE) is funding a \$1.8-million project at Virginia Tech and Clemson University aimed at developing low-cost carbon fiber for use in making light-weight automotive parts.

Professors Don Baird and Garth Wilkes of chemical engineering and Jim McGrath of chemistry are directing the project at Virginia Tech. The program is a combined effort of the Materials Institute, Center for Composite Materials and Structures, and Polymer Materials and Interfaces Laboratory at Tech, and the Center for Fiber and Film at Clemson.

The DOE is interested in conserving fuel by finding ways to produce automotive body parts that weigh less than standard steel parts. One solution is to use plastics reinforced with carbon fiber, Baird said. Plastics are much lighter than steel, but must be reinforced with carbon fiber to have strength and stiffness comparable to steel.

The goal of the Virginia Tech/Clemson project is to substantially reduce the costs of carbon fibers, Baird said. Currently, carbon fiber suitable for automotive use costs about \$8 per pound. The Virginia Tech and Clemson researchers hope to develop a carbon fiber that

(See DOE on 2)

# ACTIVITIES

## EVENTS

### Friday, 4

**OWF Coffee Hour**, 8-9 a.m., The Easy Chair.  
**Black History Program**, 11:30 a.m.-1:30 p.m., Women's Center: Prejudice Reduction Workshop.  
**Benefit Concert**, 8 p.m., Squires Recital Salon: Rebecca Orr Memorial Concert.

### Saturday, 5

**Men's Basketball**, 2 p.m.: At LaSalle.  
**Faculty/Guest Recital**, 8 p.m., Squires Recital Salon: David Jacobsen and Robert Trent.

### Sunday, 6

**Women's Basketball**, 1 p.m.: At Fordham.  
**YMCA Hike**, 1:30 p.m., 403 Washington St.: Cascades.

### Monday, 7

**University Council**, 3-5 p.m., 1045 Pamplin.  
**Black History Quiz Bowl**, 7 p.m., Black Cultural Center.  
**Men's Basketball**, 7 p.m., Cassell Coliseum: ODU.

### Tuesday, 8

**Family Support Program**, noon-1 p.m., DBHCC room G: Debbie Campbell, BHS.  
**CEUT**, 3-4:30 p.m., Hillcrest: "Informal Assessment of

Learning," by Margaret Hable.

**Black Journalism Jamboree**, 6 p.m., Black Cultural Center: Claudia Whitworth, *Roanoke Tribune*.

### Wednesday 9,

**CEUT**, 8:30-10 a.m., Hillcrest: "Informal Assessment of Learning," by Margaret Hable.

**CEUT**, noon-1:30 p.m., Hillcrest: "Student Evaluation of Teaching," by Margaret Hable and Marlene Preston.

**Black History Month Program**, 7 p.m., 234 Squires: Black Women in the 20th Century: A Sister-2-Sister Forum.

**"With Good Reason,"** 7 p.m., WVTF: Hearing Restored: Hair Cell Research, Guests include John Casali.

**VTU Lively Arts**, 7:30 p.m., Burruss auditorium: *Annie*.

### Thursday, 10

**YMCA Slide Show**, noon, Cranwell Center: Debra Warren.

**Black History Month Program**, 7 p.m., Squires Haymarket Theatre: The Renaissance: "Black College."

**Men's Basketball**, 7:30 p.m.: At St. Bonaventure.

### Friday, 11

**Black History Month Program**, noon, Squires Haymarket Theatre: Sonya Baker, JMU.

## SEMINARS

### Friday, 4

**Highlands in Chemistry**, 11 a.m., 3 Davidson: Matthew Tirrell, UCSB.

**Botany**, 4 p.m., 1076 Derring: Lilian Alessa, Roanoke.

### Monday, 7

**Biomedical Engineering**, 3 p.m., 114 Holden: Robert Hughes, Michigan.

**Horticulture**, 4-5 p.m., 409 Saunders: Ken Mobley, Four Seasons Produce.

### Wednesday 9,

**Industrial/Systems Engineering**, 4 p.m., 349 Whittemore: Joseph Bukchin.

### Thursday, 10

**Statistics**, 3:45 p.m., 409 Hutcheson: Geoff Vining.

**Geological Sciences**, 4 p.m., 4069 Derring: Barbara John, Wyoming.

### Friday, 11

**Highlands in Chemistry**, 11 a.m., 3 Davidson: Charles Han, NIST.

**Botany**, 4 p.m., 1076 Derring: David W. Smith.

**ESM**, 4 p.m., 136 Norris: Graham Wilks, Keele.

## BULLETINS

### Housing Fair scheduled

The Off-Campus Housing Fair will be held on Tuesday, Feb. 8, from 10 a.m.-4:30 p.m. in Squires Commonwealth Ballroom. Anyone needing housing in the New River Valley can attend the fair.

### OWF plans coffee hour

The Organization of Women Faculty will hold its monthly coffee hour from 8-9 a.m. Friday, Feb. 4, in the Easy Chair at University Mall.

The Organization of Women Faculty is a group of women in academic- and administrative-faculty positions at Virginia Tech. The monthly first Friday coffee hour is a time to network informally. All women faculty members are welcome. For more information, contact Tamara Kennelly, 1-9214.

### Ethnic Chinese dance to be performed

A Chinese ethnic-dance performance will be held from 7-9 p.m., Friday, Feb. 11 in the Donaldson Brown auditorium.

In recognition of the Chinese Lunar New Year, which falls on February 5 this year, the Focus on Greater China Program will present Chinese ethnic dances. This dance performance is open to the public and admission is free.

Madam Tang and Lin Wei Jia are renowned and award-winning choreographers and dancers in China. Tang is also a writer and professor at Yunnan University of the Nationalities. Lin is a dance instructor at the Guangdong Dance academy. While on campus, both will give class demonstrations and workshops in the Department of Teaching and Learning with Billie Lepczyk and Ann Kilkelly of Theater Arts.

### Duo to present concert

The Virginia Tech School of the Arts and Department of Music present David Jacobsen, flutist, and Robert Trent, guitarist, in concert Saturday, Feb. 5, at 8 p.m. in Squires Recital Salon.

Jacobsen is an associate professor of music. Trent is the director of guitar and lute studies at Radford University.

This is the second full concert performance for Jacobsen and Trent. The program will include Mexican flavor with *Sonatina Mexicana* by Carlos Domeniconi, Southwestern American character with *Cantos de las Sierras* by Louise Moyse, and Robert Beaser's *Mountain Songs* based on Appalachian folk material.

Admission for all patrons is \$5. Tickets for the concert will be available one hour before the performance at the School of the Arts box office. For more information, call 1-5200.

## Exemplary awards nominations sought

Each year the university recognizes academic departments or programs that have demonstrated outstanding achievement in maintaining an excellent teaching and learning environment for students and faculty members.

This year, the departments and programs will be recognized for their work in increasing diversity of faculty, staff, and students, and/or enhancing multicultural perspectives in teaching, research, and outreach programs. Special attention will be given to programs and initiatives that have demonstrated results and outcomes. The recognition includes two \$10,000 awards and a \$20,000 award to the departments or programs selected by a committee drawn from the university community.

Nominations are encouraged from undergraduate and graduate students, from faculty members, and from others who have benefited from the work of the department in this year's

topic. The award honors the collaborative efforts and successes of groups of dedicated colleagues—faculty and staff members, and students—actively performing work that is essential for sustaining an excellent academic environment.

Letters of nominations, not to exceed two pages should describe the linking of research with particular concentration on innovative undergraduate programs/departments noting what aspects are exemplary. A nomination may address a broad range of activities or an individual activity which has made the department's contribution outstanding. Letters should be addressed to Exemplary Department and Program Awards Committee, c/o Ronald W. Daniel, Office of the Provost, 330 Burruss Hall, Campus 0132. The deadline for receipt of nomination letters is Friday, March 10

### DOE

*Continued from 1*

can be produced for less than \$5 per pound, Baird said.

The approach to reducing the cost is to develop a new polymer, or plastic, to serve as a precursor to the carbon fiber. This new poly-

mer could be processed more cheaply than existing polymers and would contain a higher percentage of carbon in the final fiber.

The production of low-cost carbon fiber would have numerous applications outside the automotive industry, including bridge construction and aerospace and military uses.

## African-American arts celebration set

*By Sally Harris*

A "tapestry of sights and sounds" makes up a series of satellite programs titled "I'll Make Me a World: A Century of African-American Arts," available to the public Friday, Feb. 11.

The series, part of PBS's Adult Learning Service of the PBS series of Race & Diversity curriculum-enrichment programs, will be shown at the Donaldson Brown auditorium, from 10 a.m.-4 p.m. It will cover "100 tumultuous years of struggle for identity, equality, and self-expression—and the creation of a miraculous artistic legacy," according to PBS. The programs are designed to raise awareness of the way American attitudes were forever changed by the accomplishments of African-Americans in the 20th century.

Sponsored by the University Libraries and the College of Arts, the series interweaves the stories of many black artists from a number of disciplines in each of the hour-long episodes. Commentary will be provided by Alice Walker, Spike Lee, Sonja Sanchez, Quincy Jones, Wynton Marsalis, August Wilson, Ben Vereen, Maxine Hong Kingston, and many others.

The programs are as follows:

"Lift Every Voice" looks at the trials and triumphs of the first generation of African-American artists born to freedom.

"Without Fear or Shame" takes viewers from WWI through the Jazz Age and into the

Great Depression, focusing also on the Harlem Renaissance.

"Bright Like a Sun" features artists who burst onto the scene during the Great Depression and WWII, bringing a new-found energy, commitment, and autonomy and fighting overwhelming odds to realize their visions for art.

"The Dream Keepers" looks at a series of firsts in the arts and entertainment industry as racial barriers were being steadily broken at mid-century.

"Not a Rhyme Time" explores the impact of the firsts on the nation and shows how black artists made inroads in film, theater, and music, most notably in Detroit, Mich., home of Motown Records.

"The Freedom You Will Take" looks at the contemporary cultural landscape transformed by the power of African-American film, performance, dance, rap music, and the spoken word.

The viewing of "I'll Make Me a World" is free to the university community at no charge. Sign-in sheets for students completing special projects and extra-credit assignments for class will be available.

For more information, call Myra Gordon at 1-6394 or Brenda Hendricks at 1-6730.

# EMPLOYMENT

## CLASSIFIED POSITIONS

The following classified positions are currently available. More details of these positions, specific application procedures and position-closing dates may be found on the Personnel Services web site at <http://www.ps.vt.edu>. Available positions are also listed on the Job Line, a 24-hour recorded message service. For information on all job listings, call 1-5300. Some of the following positions include state benefits. Positions with numbers beginning with a "V" are hourly and do not include state benefits. Individuals with disabilities desiring assistance or accommodation in the application process should call by the application deadline.

Closing date for advertised positions is 1 p.m. Monday. An EO/AA employer committed to diversity.

### Full Time

**Animal Care Technician B**, 2647M, Grade 5, Veterinary Teaching Hospital.

**Animal Care Technician C**, 2639M, Grade 7, Veterinary Teaching Hospital.

**Applications Analyst**, 7354D, Grade 0, Computing Center.

**Banner Desktop Support Technician**, 7409D, Grade 0, AIS.

**Budget Analyst**, 6935T, Grade 10, Budget/Financial Planning.

**Buyer Specialist**, 4498M, Grade 9, Purchasing.

**Capital Outlay Program Manager**, 7545P, Grade 14, Capital Design/Construction.

**Computer Operations Technician Senior**, 1054D, Grade 8, Test Scoring.

**Development Associate for Student Calling Program**, 1450C, Grade 8, University Development/Annual Giving for Phonathon.

**Development Program Researcher**, 7556D, Grade 9, University Development.

**Executive Secretary**, 1854T, Grade 6, Budget/Financial Planning.

**Fiscal Technician Senior**, 7448C, Grade 8, University Development.

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

**Food Operations Manager B/Executive Chef**, 0837H, Grade 10, Residential and Dining Programs/West End Market.

**Food Operations Manager B/Executive Chef**, 1781H, Grade 10, Residential and Dining Programs/Dietrich Dining Hall.

**Housekeeping Worker**, 1220H, Grade

1, Residential/Dining Programs.

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

**Housekeeping Worker**, 0171H, Grade 1, Residential/Dining Programs.

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

**Housekeeping Worker**, 6870C, Grade 1, Physical Plant/Housekeeping.

**Information Technology Recruiter**, 999999D, Grade 10, Personnel Services.

**Installation and Repair Technician**, 1899D, Grade 8, CNS.

**Institutional Traffic and Parking Supervisor**, 1111T, Grade 9, Parking Services.

**Office Services Specialist**, 468S, Grade 5, University Library.

**Office Services Specialist**, 2039C, Grade 5, Office of University Bursar.

**Operating Systems Analyst**, 1244D, Grade 0, AIS.

**Plumber/Steamfitter**, 7278H, Grade 7, Residential/Dining Programs/Facilities.

**Program Support Technician**, 0028, Grade 6, Scholarships/Financial Aid.

**Program Support Technician Senior**, 7548T, Grade 7, Physics.

**Program Support Technician Senior**, LC045D, Grade 7, Alumni Relations.

**Public Relations Assistant Specialist**, 4492J, Grade 8, Center for Transportation Research.

**Public Relations Specialist**, 7549J, Grade 10, Center for Transportation Research.

**Recreation Center Supervisor (Recreation Sup B)**, 6956G, Grade 7, University Unions/Student Activities.

**Registered Nurse**, 6559, Grade 11, Adult Day Services.

**Security Guard (Parking Enforcement Off.)**, W020415T, Grade 2, Parking Services.

**Senior Development Associate Of Annual Giving**, 6695D, Grade 10, University Development.

**Student Programs Coordinator**,

LC063D, Grade 12, Alumni Relations.

### Part Time

**Animal Care Technician A**, W022970M, Grade 3, Veterinary Teaching Hospital.

**Cashier/Hostess/Dining Room Supervisor**, W022981G, Grade 2, DBHCC.

**Executive Secretary**, W022984T, Grade 6, University Leadership Development.

**Fiscal Assistant**, W022977M, Grade 5, Biochemistry.

**Fiscal Technician**, W022853G, Grade 6, Bursar's Office.

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

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

**Laboratory Specialist**, W022972M, Grade 8, Dairy Science.

**Office Services Assistant**, W022982G, Grade 4, Physical Plant.

**Office Services Assistant**, W022978, Grade 4, Library.

**Office Services Specialist**, W022980, Grade 5, University Registrar.

**Office Services Specialist**, W022170M, Grade 5, Veterinary Teaching Hospital.

**Public Relations Assistant Specialist/ Web Designer**, W022976H, Grade 8, Residential/Dining Programs/Marketing/Conference Services.

**Radiologic Technologist**, W022238G, Grade 7, Health Center.

**Secretary Senior**, W020618M, Grade 5, CVM.

**Trades/Utilities Worker (Trades Helper)**, W022966H, Grade 3, Residential/Dining Programs/Facilities.

**University Only**

**Program Support Technician**, U2960G, Grade 6, Office of International Programs.

**Technical Lead, Alumni Development Team**, 1379D, Grade 0, AIS.

**Off Campus**

**Evening Announcer**, 1962D, Grade 8, WVTF.

**Executive Secretary Senior**, 6186M, Grade 7, Virginia Cooperative Extension-Southeast District.

**Office Services Assistant**, 6605, Grade 4, HNFE.

**Program Support Technician**, 5792M, Grade 6, Virginia Cooperative Extension-Southampton County.

**Program Support Technician**, 7543J, Grade 6, NVC—Computer Science.

**Secretary Senior**, 5148M, Grade 5, Virginia Cooperative Extension-Henry County.

## FACULTY POSITIONS

### INSTRUCTIONAL

**Department of Mathematics. Assistant/Associate Professor.** Contact: Numerical Analysis Search Committee, 460 McBryde (0123). Review begins immediately; continues until position filled.

**Department of Geological Sciences. Instructor, Electron Microprobe-SEM-XRD Facility.** Contact: Robert Tracy, 4044 Derring (0420). Review begins February 15.

**Institute for Distance and Distributed Learning. Instruct/Online Specialist.** Contact: Tom Wilkinson, Old Security Building (0445). Review begins February 21.

### NON-INSTRUCTIONAL

**Virginia Cooperative Extension. Associate Director, 4-H (re-advertised).** Blacksburg campus. Contact: Judith Jones, 105B Hutcheson (0437). Review begins March 1.

**Residential and Dining Programs. Area Coordinator of Residence Education (re-advertisement).** Contact: Gail Kirby, 109 E. Eggleston (0428). Review begins March 13.

**Career Services. Career Advisor and/or Assistant Director.** Contact: Amy McPherson, Top Floor Henderson Hall (0128). Open until filled.

**Department of Entomology. Research Associate, Forest Entomology.** Contact: Scott Salom, 216 Price (0319). Review begins February 15.

## DIVERSITY INFORMATION

The Third Annual Diversity Summit held January 17 in honor of the Martin Luther King holiday attracted 130 participants, according to Barbara Pendergrass, dean of students.

The summit began with a progress report by Benjamin Dixon, vice president for multicultural affairs. The report, "Steps on the Journey to Inclusion," highlighted achievements of the university since the 1999 summit.

For a full report on the summit, and other diversity-related information, see the insert in today's issue of *Spectrum*.

## GENERAL ASSEMBLY

### Continued from 1

A number of amendments are being submitted on behalf of the university to augment the funding recommended by Gilmore. These include increased funding for operating support; support for information technology, including the Institute for Distance and Distributed Learning; expansion of programs to produce graduates for high-technology employment; research and development funding, including support for graduate students and for the new research institutes in Roanoke and Alexandria; and funding to increase enrollment from under-represented groups through the Minority Academic Opportunities Program. Budget amendments are also being submitted for the Unique Military Allowance and the Virginia Center for Coal and Energy Research.

## STATEMENT

### Continued from 1

which is producing a human pharmaceutical in its milk. Yet ultimate success in understanding the inner workings of the genetic structures of plants such as tobacco depends on advances in another of Virginia Tech's strengths, information technology. The huge masses of data involved in this research require new approaches to information technology and the communication of these data: thus the new field is called bioinformatics.

Some parts of Virginia have prospered through the great explosion of the Internet in recent years. In the 21st century, the regions and states that can decode the complexities of the life sciences through information technology will prosper.

In addition, an amendment is being submitted for the 229 Division to provide increased support for the Plan to Serve Virginia's Agriculture, Human, and Natural Resources.

The major capital-outlay amendments being submitted include funding to continue the Upper Quad conversion, technology upgrades to classrooms, construction of the Agriculture-Forestry Research Facility, and the General Fund portion of the Multi-purpose Livestock Arena.

Hearings by the House Appropriations and Senate Finance Committees on higher education's priorities have already begun. Each committee has a deadline of February 20 to report its recommendations for consideration by the full House and Senate.

For more information on the General Assembly, contact the Office of Government Relations.

If we do not move ahead quickly in this field, in the next century Virginia's Internet portals will only be carrying ideas and products generated in other states.

I should note that the governor of Michigan recently announced a \$50-million initiative in this field for Michigan's universities, using tobacco-settlement funds. I should also mention that while the governor recommended \$12 million for this program in the first biennium, Virginia Tech has committed to raise another \$27 million for buildings and equipment through research revenues and federal and private sources.

Our ultimate goal for Southside and Southwest Virginia is to create an environment where our children and grandchildren will not have to move away to find a well-paying job. Will the program in bioinformatics turn around the economies of Southwest and Southside in the next five years? No. Does it provide an opportunity for Virginia to be a leader in the development of many types of new agricultural products, creating high-wage, high-technology employment? Yes. In fact, at this time a major biotechnology company is seriously considering locating in Virginia, and the potential for this program is a factor in their considerations.

I appreciate the opportunity to speak with you today. I can assure you that whatever the commission decides on the bioinformatics proposal, Virginia Tech stands ready to assist you in many ways, from extending high-speed Internet access into our communities, to providing educational programs and services through Cooperative Extension and our research stations, to working with the public schools, community colleges, and other universities to provide high-technology education and training to realize the potential of our tobacco-growing regions in the new century.



VIRGINIA POLYTECHNIC INSTITUTE  
AND STATE UNIVERSITY

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Electronic Spectrum: <http://www.vt.edu/10021/admin/eaqa/index.html>

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## IN OTHER NEWS

# Pavement research presents unique opportunity for engineer

By Lynn Nystrom

For three months this year, Virginia Tech engineering faculty member Imad Al-Qadi was on the job by 6 a.m., at least six and sometimes seven days a week. The intensity of his work kept him each evening until about 8 or 8:30, and once in awhile, midnight. He went for almost an entire month without eating a meal with his wife and three children.

But for Al-Qadi, his labor was for a dream come true. He was involved in a once-in-a-lifetime event, and the sometimes sacrifice, sometimes best time of his life was well worth the exhaustion.

A member of the Civil and Environmental Engineering Department, Al-Qadi is an expert on pavements. However, his normal workday as a professor does not include the outdoor life of a construction contractor. In fact, not many contractors keep these hours.

Al-Qadi had the first opportunity of any researcher in the country to install instrumentation in a "smart road," the first highway of its kind to be built from the ground up. He knew the chance was not to be missed.

Identified simply as the Smart Road by Virginia's Department of Transportation, it is a full-scale research facility for pavement research and evaluation of Intelligent

Transportation Systems (ITS) concepts, technologies, and products. ITS technologies are all about improving communications between drivers, vehicles, and the highways by using sophisticated computers, electronics, and satellites.

To instrument the road with sensors and monitoring equipment, Al-Qadi had to stay several steps ahead of the contractor and not delay the job. Hence, the very long hours were necessary. "He (the contractor) never waited even a day for us," Al-Qadi said. All of the instruments were buried inside the pavement as the road was being built.

Nine graduate students, one female undergraduate, and Geraldo Flintsch, also a faculty member in civil engineering, shared the time on the project with Al-Qadi. A timetable was developed to accommodate each student's class schedule, as well as Al-Qadi's classes.

The infrastructure that "we built with the Smart Road is unique," according to Al-Qadi. A Control Center, allowing remote monitoring and control of the instruments that are embedded in the road, is currently under construction. Also, an underground conduit network, accessible via a manhole cover, provides for the installation of a power and fiber optics data network without creating a safety hazard to

vehicles that may leave the normal roadway. The road is also equipped to generate or simulate different types of weather conditions including rain and snow.

In creating these testing areas as the road was under construction, Al-Qadi said the true challenge was working without electricity except what he could manufacture from four generators. "It was a nightmare, especially when working after dusk."

He has divided his road test portion into 12 different flexible pavement designs. Each section is approximately 100 meters long. Seven of the 12 sections are located on a fill area, while the remaining five sections are in a cut through the existing terrain. All 12 sections have a complex array of sensors embedded beneath the road's surface.

"Each section was designed differently to obtain the desired experimental surface and structural capacity, and the pavement drainage is also different. Special sections included a newly developed geo-composite to prevent cracking and penetration by moisture. One surface design has an open graded friction course that will improve vehicular traction and reduce splashes, especially from trucks," Al-Qadi said.

Al-Qadi is using a pavement material called

SuperPave™ for testing purposes. "Virginia is moving to the use of SuperPave™ by the beginning of the new century in most of our roads. We are one of the leading states in using SuperPave™ in our roads as trial sections. The expected benefit is that it will be a better pavement with greater service life and fewer pot holes will occur," Al-Qadi said.

As Al-Qadi evaluates the different types of pavement materials and designs and the response of the various materials to different weight loads and to the environment through his array of sensors, his task will be made somewhat easier since the traffic will be controlled. Vehicles traveling on the test section will have pre-recorded information such as tire pressure, axle loads, speed, and mismatch of dual tire pressures. Conventional traffic will be prevented from using the test bed area of the Smart Road for the present time.

Al-Qadi is looking forward to the next stage of his work. "Professionally for me, this work is truly exciting. We have a lot to prove in the testing and design of pavements and in introducing new technologies to increase their service life at the lowest possible cost with the least amount of downtime for maintenance. This is always a challenge."

## ACHIEVERS

(Editor's note: The Achievers section will be published two to three times per semester in Spectrum.)

Raymond H. Myers was granted the Shewhart Award by the American Society for Quality (ASQ). The award is given to the individual who has demonstrated leadership in the field of modern quality control.

Myers, professor emeritus of statistics, received the award at ASQ's Annual Quality Congress in Anaheim, Calif. He was cited for "leadership on the improvement of process and product quality through groundbreaking advances in the use of designed experiments and response-surface methodology and for clear communication of these ideas to industrial and academic audiences through numerous publications, books, courses, and presentations."

E. Thomas Garman, professor in near environments, and executive director of the National Institute for Personal Finance Employee Education, has been appointed to a three-year term on the Board of Directors of the American National Standards Institute (ANSI). ANSI has served as administrator and coordinator of the United States' private sector, voluntary-standardization-system for 80 years.

Howard Feiertag, a nationally known hospitality industry veteran and an instructor in hospitality and tourism management, recently received the 1999 Travel Educators Award at a ceremony in Fort Lauderdale, Fla. Feiertag was honored for his personal time and effort dedicated to enhancing travel agent professionalism through education and training over the past 20 years.

Feiertag is a certified meeting professional (CMP), a certified hospitality marketing executive (CHME), and a certified hotel administrator (CHA). He coordinates hospitality sales workshops each year at the Donaldson Brown Hotel and Conference Center.

Daisy Stewart, associate professor in teaching and learning, was the recipient of the 1999 Association for Career and Technical Education (ACTE) Arch of Fame

Award. Stewart was recognized at the professional association's annual convention for her "outstanding accomplishments and achievements that have supported the work and purposes of ACTE." Nationally, Stewart's notable accomplishments included her tenure as ACTE president in 1996-97, and her work on the ACTE Board of Directors from 1992-98. Her vision has contributed to the success of Virginia Tech's vocational and technical education program, which for the past five years has been ranked from third to sixth in *U.S. News and World Report's* review of graduate programs in the United States.

Lyn Gray, director of international programs; Myra Gordon, associate dean, College of Arts and Sciences; and John Crunkilton, associate dean, College of Agriculture and Life Sciences, recently presented a panel discussion on "Study Abroad in Africa" at the conference of NAFSA: Association of International Educators.

Gray has also been elected to the executive committee of the Virginia Council for International Education.

Christine Jarchow, assistant director for education abroad, gave a presentation on data collection in study abroad at the conference of NAFSA: Association of International Educators.

Cathryn Turrentine, director of planning and assessment, recently participated in leading

three presentations at the Southern Association for College Student Affairs conference in Louisville. The presentations were "Strategies and Programs to Gather Student Outcome Data," "Before There was Student Affairs," and "Practicing and Publishing: When Worlds Collide." =

Patricia Hyer, associate provost, presented a paper titled "A Faculty Assessment of the Campus Climate for Diversity" at the annual meeting of the Association for the Study of Higher Education held in San Antonio in November. Valerie Martin Conley, assistant director of institutional Research and Planning Analysis, was co-author of the paper.

Brian James, production manager for University Honors and Student Activities, recently presented "The Difference between Residential and Tour Productions" to the Illuminating Engineering Society at Radford University.

Rick Moorefield, economic-development specialist for community preparedness with Virginia Tech's Public Service Programs, recently served as the moderator for the 1999 Virginia Industrial Development Authorities Institute at the Hotel Roanoke and Conference Center. He also made the first formal presentation of the "Familiarization, Analyzation, Prioritization, Energization, and Sales (FAPES) model for economic development that he developed.

The *Hokie Handbook*, an annual publication of the Dean of Students office, was recently recognized as the outstanding student handbook during a National Orientation Directors Association conference in Tampa. Editors for the handbook were J. Thomas Brown, associate dean of students, and Denise Collins, doctoral student in Student Affairs. Brown was also recognized as the outgoing regional coordinator of the National Orientation Directors Association, a role he held for two years, giving leadership to orientation professionals and programming in the mid-Atlantic states.

Brown recently presented a workshop on diversity at the recent state-wide gathering of Catholic Campus Chaplains in Charlottesville.

Anne Moore, director of information technology initiatives, recently helped present "Distance Education and Institutional Restructuring: Models for Success" at the annual meeting of the Western Cooperative for Educational Telecommunications.

Charles J. Dudley, director of the University Honors Program, was recently presented the Truman Foundation Leadership Award at the College of Arts and Sciences roundtable awards banquet. The award was presented for Dudley's efforts in developing the Emerging Leaders Workshop, a cooperative venture involving a number of historically black colleges and universities, the Truman Foundation, DuPont, and Virginia Tech.

Connie V. Sowers, program-support technician in the department of Aerospace Studies, has been selected the Air Force ROTC Southeast Region Area 4 Civilian of the Year from among nominees from eight peer universities. Sowers had already been chosen Civilian of the Quarter for the third and fourth quarters.

She has been employed in the department of Aerospace Studies two years and has worked at Virginia Tech four years. During that time, she has served as chairwoman of the Program Committee of the College of Arts and Sciences Staff Association, and a member of the University Staff Forum Committee.

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