More than $1 billion, 15,000 jobs
University major source of economic activity

By Larry Hinkle

A recently completed study estimates that Virginia Tech and its affiliates generated $1.287 billion in annual economic activity and 15,000 jobs in the New River and Roanoke Valley (NRRV) region for fiscal year 1999. The NRRV is defined as Montgomery, Floyd, Pulaski, Roanoke, Craig, and Giles counties and Radford, Salem, and Roanoke cities.

During the study period, approximately 5,800 people were on university payroll. An additional 9,200 jobs were created in the Roanoke and New River Valleys as a result of Virginia Tech’s presence and activities.

The study, led by Jeffrey Alwang, an associate professor of applied economics at Virginia Tech, estimated that 27 percent of the gross regional product (GRP) for Montgomery County and 6 percent of the GRP for the Roanoke New River Region is attributable to Virginia Tech. One quarter GRP for the Roanoke New River Region is attributable to Virginia Tech. One quarter GRP for the Roanoke New River Region is attributable to Virginia Tech. One quarter GRP for the Roanoke New River Region is attributable to Virginia Tech. One quarter

The study also analyzed the impacts of spending by visitors estimating the overall impact from football, conferences, special events, and student-related visits at $40.1 million. Football visitors accounted for $10.3 million or about $1.7 million in direct spending per game in Montgomery County. Conferences added $8.8 million in direct spending in the Roanoke and New River region. Visitors attending other events such as student move-in, orientation, admissions, and Parents Day spent about $10.6 million in the NRRV.

Each Virginia Tech graduate and undergraduate student accounts for $10,878 and $3,897 respectively in annual spending. Student spending creates a total NRRV impact of $145.7 million ($93.5 for undergraduates and $52.2 for graduate students).

The report is an update to a 1992 study which estimated the overall impact of Virginia Tech to be $762.6 million and 10,284 jobs. The 1992 and 2000 studies measure impacts only in the local region and not state wide. Virginia Tech has a presence in every county in Virginia, operates 12 agricultural experiments stations, has a horse facility in Leesburg, and two centers in Alexandria, and has graduate operations in Falls Church, Abingdon, and Roanoke.

The study concludes that the actual financial impact of the university on the region is even greater.

By John Ashby

It’s a pretty safe bet that Parking Services, a part of the Office of Transportation, may affect more university employees on a daily basis than any other department on campus. For that reason, the Office of Transportation is the first campus department to be profiled in a series of profiles to be published in Spectrum this year.

The Office of Transportation consists of the departments of Parking Services, Motor Pool, Air Transportation Services, Airport, and Records Management. Additionally, it coordinates BT support of Virginia Tech activities, and the Alternative Transportation program.

The Office of Transportation is involved in a number of activities which will have an on-going effect on faculty and staff members.

Steve Mouras, director of Transportation and Records Management, said, “It’s a great job. It’s not the least bit boring, and there is always plenty of opportunity for growth.”

Mouras has been in the position since 1997, but the forces which have shaped parking and transportation at the university go back to the late ’80s. At that time, there was a state-wide mandate that state funds could no longer be used to build and maintain parking lots. Since then, the resulting parking fees and competition for on-campus parking spaces have made Parking Services a lightning rod for campus discussion.

To respond positively to the concerns of faculty and staff members regarding parking issues, Mouras developed a survey a year ago which garnered 8,000 responses. A detailed analysis followed. “We got a lot of feedback, and we spent a lot of time talking with various campus groups, and with the Parking and Transportation Committee,” Mouras said.

“All of these groups provided conduits of information to us. From that information, we have put together concepts for short-term ways to address the university’s parking-and-transportation issues.”

Mouras said four action items have been developed in the effort to improve parking availability by maximizing the university’s existing parking spaces. The first action is to discourage violators by raising the cost of parking tickets by $5 to $25. The next step is to boot the wheels of habitual abusers. Those who “get detected” by the cost of parking tickets, Mouras said.

The third step in the process of improving parking availability will be to install gates at the entrances of some faculty and staff lots. “We want to validate the cost-effectiveness of gate technology,” Mouras said. “If the gate is effective, we will gate other faculty-staff lots.”

The first gate is being installed at the Media Building lot across from the Donaldson Brown center and will be activated on September 4.

The fourth short-term activity aimed at improving parking availability, Mouras said, is to hire more parking-enforcement officers. In addition to the program outlined above, Mouras said there are several new approaches which are intended to enhance parking and transportation by encouraging the use of alternative transportation such as biking, walking, and taking the BT and increasing the number of spaces. They are:

**Commuter Alternatives Program (CAP):** Beginning in fall 2000, employees and students who commute to campus by foot, Blacksburg Transit, or bike will have the option to register for CAP. CAP participants will

(See TRANSPORTATION on 8)
Jeffrey Bloomquist, associate professor of entomology, received the Gamma Sigma Delta Research Award of Merit this spring from the Virginia Tech Chapter. His current research is on the molecular mechanisms of insecticide toxicology, and the relationship between exposure to pesticides and the onset of Parkinson's disease. Bloomquist also served as lab director and model for his investigations into this troublesome human affliction. He came to Virginia Tech in 1989 from the University of California, Riverside.

Ezra A. Brown, professor of mathematics, was one of two mathematicians to receive the George Pólya Award from the Mathematical Association of America for articles of expository excellence published in The College Mathematics Journal. Brown received the award, consisting of a citation and cash prize, in August at the Summer MathFest in Los Angeles. The award was for his article “Square Roots from 1;24,51,10 to Dan Shanks,” published in March 1999.

Brown’s research interests include number theory, dynamical systems, graph theory, and the history of mathematics.

Kay Castagnoli, senior research associate in the Harvey W. Peters Research Center in the Department of Chemistry, presented an invited lecture at the 9th International Amine Oxidase Workshop, “The Millennium Meeting,” in Barcelona, Spain. The title of her lecture was “Inhibition of Human MAO-A and MAO-B and Neuroprotection in the MPTP C57 Mouse Model by a Compound Isolated from Tobacco Leaves.” In this mouse model, the compound has been shown to protect against damage of the dopaminergic neurons that are affected in Parkinson’s Disease.

Neil Castagnoli Jr., professor of chemistry in the Department of Chemistry’s Harvey W. Peters Research Center, is currently spending two months as visiting professor at Astra Zeneca in Sweden. He is working on a collaborative project utilizing LC/MS and LC/MS/MS. He has presented several invited lectures while there and will return on September 30.

Bernard F. Dukore, university distinguished professor of theatre arts and humanities emeritus, has published two books recently, bringing his total number of books written or edited to over 30.

Dukore recently published Sam Peckinpah’s Feature Films. Peckinpah is considered one of the greatest American film directors, and Dukore’s book is an examination of Peckinpah’s 14 feature films as a coherent body of work. Dukore also demonstrates that Peckinpah’s lesser-known works bear his mark of genius as well as his classics.

The second book, Shaw’s Theater, is a three-part work that begins with an updated version of Dukore’s 1971 Bernard Shaw: Director, “a work that is still the standard in its field,” according to R.F. Dietrich, editor of the Florida Bernard Shaw Series, which published the books. Shaw’s Theater also contains a revised and extended version of his 1983 work as Interpreter: Shaw’s Pygmalion” and concludes with an original, unpublished study, “The Theater in Bernard Shaw’s Drama.”

In 1992, Dukore was principal organizer of an international conference, held at Virginia Tech, 1992: Shaw and the Last Hundred Years.

Joe Roggenbuck, a professor in the department of forestry who specializes in natural-resource recreation, has been elected to membership in the Academy of Leisure Sciences. The academy is an organization of approximately 80 outstanding scholars who have made substantial contributions to the intellectual advancement of leisure sciences.

Election to the academy requires a two-thirds majority vote by the membership and constitutes recognition by peers of a sustained level of excellence over many years.

James A. Burger, professor of forestry and soil science in the forestry department, received the William T. Plass Award from the American Society for Surface Mining and Reclamation. This is the most prestigious award given by the society for outstanding contributions in the areas of teaching, research and practice related to land reclamation and ecosystem restoration.

Burger’s work has spanned 20 years and multiple states in the eastern and midwestern United States. His major contributions deal with researching the biology, economics, engineering, and legal procedures for restoring productive forests disturbed by surface mining.

Burger teaches topics on forest soils, ecology, silviculture, agroforestry, and research methods.

Jason Rodrigue, a graduate research assistant in the department of forestry, received the Master of Science Memorial Scholarship Award from the American Society for Surface Mining and Reclamation. The criteria for selection include high grade-point average, evidence of overall leadership and scholarship, and sound, scientific research dealing with reclamation and restoration.

At the society’s annual meeting, Rodrigue also won a separate, highly competitive award for best student presentation of a proceedings paper on original research.

Orlena Bassey, Pam Dalton, Angela Harvey, Jeanette Houghton, Lynn Johnson, and Connie Williams were named national and professional secretary (CPS)™ rating. Each participated in the Professional Development Program offered by the Virginia Tech CPS Group, the Office of Personnel Services and Continuing Education. The CPS exam is an extensive one-day, three-part exam that tests organization-level credits toward an associate’s degree. The exam covers finance and business law, office systems, and administration, and management.

Pam Dalton is employed by the purchasing department; Robinson is employed by HRIS/personnel services; Pam Dalton is employed by the Art and Architecture Library; Harvey is employed by the foreign languages department; and Houghton is employed by the Business Technology Center.

Martha J. Reifsneider and Monika Gibson of the Graduate School presented a session on using electronic technologies in international advising at the national conference of NAFSA: Association of International Educators.

John Eaton of the Graduate School promoted the development of electronic theses and dissertations at Western Michigan University. WMU recently joined the Networked Digital Library of Theses and Dissertations, an international initiative begun by Virginia Tech that now includes more than 80 member universities and libraries.

S.K. De Datta, director of the Office of International Research and Development, will be named a fellow in the Crop Science Society of America and received that organization’s award for International Service in Crop Science.

Several members of the publications and University Relations staff won local and regional awards for their efforts. The Gateways of Opportunity brochure won a bronze award in the American Advertising Awards of Western Virginia competition. Barbara Corbett was the art director and designer; David Lotts was the writer; Richard Lovegrove was the editor; and Bob Veltri and Rick Griffitfs took the photos. The Expanding Careers pamphlet was the 1st place winner in the same competition, and took an Award of Excellence in the CASE District III competition. Meg Nugent was the art director and designer; Lynn Davis was the editor; and Lovegrove was the copy editor.

In the CASE District III competition, four publications won a Special Merit Award. The Picture Yourself poster was designed and written by Michele Moldenhauer and photographed by Griffitts and Veltri. The Research Magazine was designed by Pam Johnson, edited by Veltri, and photographed by Veltri and Griffitts, and illustrated by Sherry Roser, Greg Bugtong, and George Wills. Corbett designed Crossing the Lines; Trulove was the editor; Lovegrove was the copy editor; Veltri, Griffitts, and John McCormick took photographs. For Issues and Answers magazine, Nugent was graphic designer; Larry Hincker was executive editor; Clara Cox was managing editor; Patricia White was copy editor; Veltri was photographer; and Wills was illustrator.

Michael Furey, professor of mechanical engineering and a leader in biomedical engineering research, recently gave two invited talks in England under the American Society of Mechanical Engineers’ International Distinguished Lecturers Program, “Science, Technology, Society, and Interconnectedness,” presented at Imperial College in London, was based primarily on Furey’s experience with a course he developed and has taught to students from all colleges and more than 60 departments at Virginia Tech. The second lecture, “Triology and Arthritis: Are There Connections?—delivered at Cambridge University—was drawn from Furey’s research on biotechnology and cartilage wear, carried out during the past 15 years in collaboration with researchers from biochemistry and the Virginia-Maryland College of Veterinary Medicine.

Andy Swiger, dean of agriculture, was named to the Animal Science Hall of Fame at Ohio State University. Swiger joined Virginia Tech as head of the Department of Animal Science in 1980. He served as director of the Virginia Agricultural Experiment Station before being named dean of the College of Agriculture and Life Sciences in 1992.

Swiger has received a number of awards during his career, including the Rockoff Prentice Memorial Award, one of the highest awards available to animal scientists. It was presented to Swiger by the American Society of Animal Science in 1984 for his research to develop methods for breeders to increase the rate of genetic improvement of farm animals.

Swiger also has had an impact on the field of animal breeding and quantitative genetics through his teaching activities.

Angela D. Astin, a Ph.D. candidate in industrial and systems engineering (ISE), has been awarded the first Thompson Scholarship for Women in Safety by the American Society for Safety Engineers (ASSE). Astin is studying occupational safety in ISE’s human-factors engineering-safety graduate program. ASSE is the world’s oldest and largest professional safety society.

A. Annamalai Jr., an assistant professor of electrical and computer engineering who works at the Alexandria Research Institute, received the 2000 Distinguished Dissertation Award for Engineering, Medicine, and the Natural Sciences from the Canadian Association for Graduate Studies. Annamalai wrote his dissertation at the University of Victoria, Canada. The award is sponsored by University Microfilms International (UMI), a Bell Howell Company.

Sam Riley, professor of communication studies, received the William H. Taft Outstanding Chapter Adviser Award for Kappa Tau Alpha (KTA), the national honor society for journalism and mass communications. Riley helped establish the Virginia Tech KTA chapter in 1986 and has served as its only adviser. He also has served as a judge for the Mott-KTA Research Award, which recognizes the best research-based book on journalism or mass communication published during the year.

Riley is the 16th recipient of the award, named after William Howard Taft, longtime executive director of the society. Kappa Tau Alpha, a member of the Association of College Honor Societies, was founded in 1910 and has chapters at 93 universities.

Michael C. Vorster, the David H. Burrows professor of construction engineering and management, has been elected a charter member of the National Academy of Construction. Vorster is among the first 25 members elected to the newly established academy, and one of only three members from academia. Members are industry leaders recognized by their peers who have made outstanding contributions to the effectiveness of the engineering and construction industry.

Before joining the department of civil and environmental engineering in 1986, Vorster had 12 years experience in the construction industry. His specialties are construction-dispute resolution, scheduling, and equipment economics.

Lee H. Drowne, assistant director of undergraduate admissions, was invited to participate in the Professional Practice Workshop at the 52nd Annual NAFSA: Association of International Educators Conference, held May 28-June 2. The 12-hour workshop, designed for beginning international-admission professionals, explored effective strategies for establishing an international-admission office and creating an effective international-recruitment program. Drowne covered the effective use of electronic mail, development of publications and web pages, “armchair recruiting,” and using international alumni in recruiting efforts.

Tom Tillar, vice president of alumni relations, served as program chair for the Council of Alumni Executives’ four-day conference in July, and as presenter of a session on “decentralizing (See ACHIEVERS on 7)
Virginia View provides valuable career resource

By Jean Elliott

Whether 22 years old and fresh out of college, or aged 42 with a plump portfolio, at some point everyone addresses daunting career questions. Fortunately, Virginia View can provide answers.

Since 1980, the Virginia Occupational Information Coordinator Committee has awarded a contract to Virginia Tech to research, develop, and disseminate the Virginia Career Information Delivery System. This system is called Virginia VIEW (Vital Information for Education and Work) and its mission is to provide accurate, current and comprehensive career information that is accessible to all Virginians.

This service for the Virginia residents was conceptualized and directed for almost 20 years by Carl McDaniels. Now the leadership and vision are in the hands of principal investigator Claire Cole Vaught and project director Mary Landon-Moore in the Department of Educational Leadership and Policy Studies.

Virginia VIEW is available to provide career information throughout the course of people’s working lives—from early exploration to mid-life transition and on to retirement. The VIEW staff delivers career information through a multi-media system that includes computer programs, a career-information line, tabloid newspapers and a web site on the Internet. It is found in the K-12 public and private schools, colleges and universities, libraries, state agencies, correctional education centers, and many other locations throughout Virginia.

With regard to lifespan career development, Virginia VIEW has joined a national project funded through the Department of Labor called “America’s Learning Exchange” (ALX), which is an electronic marketplace for life-long learning. VIEW received additional funding of $52,000 to research and compile learning resources offered in Virginia and West Virginia that include continuing education courses, Internet-based training programs, traditional classroom-based courses, and training through CD-ROM and video instruction.

“The ultimate goal of the ALX project,” Landon-Moore said, “is to provide individuals with the training and educational resources they need to start, advance, or redirect their careers.”

The VIEW’s web site (http://view.vww.vt.edu/index.shtml) provides educational and career information. The site allows visitors to access interactive career services and to conduct college searches. It has been visited nearly 130,000 times since March of 1997 and nearly 500 users access the VIEW software.

The VIEW Career Information Line (1-800-542-8870) provides occupational and educational information to thousands of Virginians each year. Nearly 1,000 calls were received on the line from June through October of 1999. Trained career-information specialists assist callers with accurate responses to questions received over the phone or by electronic mail. The Career Information Line is open from 8 a.m. to 5 p.m. Monday through Friday.

Virginia VIEW also provides training workshops for counselors and other helping professionals throughout the year that are designed to help them use VIEW products and services in their settings. Over 1,000 educators and helping professionals attended the 1999 workshops.

Virginia Tech Recycling

Game-Day Recycling Guidelines

By Larry Bechtel, Virginia Tech Recycling

To assist in keeping the Virginia Tech campus clean, and make recycling a success for the Georgia Tech game, those attending the game are asked to observe the following guidelines:

- Bring black or white trash bags with you, bag your trash, and leave visible at your tailgating site. When possible, leave trash bags near a trash barrel.
- Pick up a clear plastic bag at parking lot entrances or from one of the recycling pickup crews, for the following recyclables: plastic bottles (please remove tops), aluminum cans, and glass bottles. Please be sure that items are empty of fluid.
- Please deposit recyclables in maroon “Igloos,” take to a collection crew, or leave neatly at the site, separate from trash. Pickup crews will be on duty beginning at 10 a.m.
- For more information, questions, or suggestions, contact the VTR Office at 1-9915 or lbechtel@vt.edu.

CONGRESSMAN VISITS Congressmen Rick Boucher (D-9th), left, listens as Veterinary Radiologist Jeri Jones, right, discusses the Alphin Radiology Center’s computed tomography (CT) scanner. Also pictured is Veterinary College Dean Peter Byers. Boucher visited the VTRM in early August. (J. Saber)

Hopkins appointed to FOIA council

By Sally Harris

Speaker of the House Vance Wilkins has appointed W. Wat Hopkins, associate professor of communication studies at Virginia Tech who specializes in free-speech issues, to a four-year term on Virginia’s Freedom of Information (FOIA) Advisory Council. The General Assembly authorized the council, which gives non-binding support of the legislature, during its last term, with strong support from Delegate Chip Woodrum, D-Roanoke, and Senator Bill Bolling, R-Hanover. The approval came after a special two-year FOIA task force, the release added.

The council is designed to “encourage and facilitate compliance with the Freedom of Information Act (FOIA).” It is intended to provide advisory opinions on FOIA issues, to provide training, to publish educational materials, and to report on FOIA issues and concerns to the governor and the General Assembly. Hopkins said the governor, speaker of the House, and the Senate Committee on Privileges and Elections can make appointments to the council and oversee its day-to-day operations.

According to a press release from the Virginia Coalition for Open Government, “Woodrum told the House a full-time ombudsman was needed because questions about public information were being raised every day in government agencies.” Marial K. Everette, a senior attorney with the Division of Legislative Services, will serve as ombudsman of the council and oversee the council’s day-to-day operations.

According to the coalition release, Woodrum said that using the council as a go-between will reduce the adversarial stance between the government and persons requesting information. People who have asked for information and been denied it can go to the council instead of taking legal steps to obtain the information. According to the coalition release, “Woodrum said he envisions them (the council’s) opinions ‘falling somewhere between the legality of an attorney general’s opinion and a binding court decision’.”

Hopkins is the only professor on the council. He is director of graduate studies in Communication Studies in the College of Arts and Sciences. He recently was elected director of the Virginia Coalition for Open Government.

RDP unveils its new logo

By Lori Greiner

After 10 years of use, Residential and Dining Programs (RDP) has retired its old logo and unveiled a new one. With considerable input from students and staff members over the past 18 months, the new logo better identifies Residential and Dining Programs and visually represents each of the functions that RDP serves.

Focus groups were held with students to gain feedback about the logo, what a new RDP logo should represent, and what it should look like. Research showed that the vast majority of students could not describe the RDP logo in use at the time. In addition, most did not recognize
Parking advisory issued for Sunday’s game

By Steve Moura, director
Office of Transportation

On Saturday, Aug. 26, before Sunday’s home football game, parking will be prohibited after noon in the following lots: Litchfield Reaves/Wallace (located off Washington Street and Duck Pond Drive), Coliseum lot (located off Washington Street and Spring Road), the gravel lot located behind the Jameson Center, the Stadium lot, Track/Soccer lot, Engel lot and Maintenance lot (located off Spring Road and Southgate Drive). Parking will also be prohibited on Spring Road and Washington Street (southern side only from Spring Road to Kent Street). Vehicles will be removed from these lots and roads after noon. Resident students can relocate their vehicles from Stadium lot to a temporary parking lot located in a field on the western side of Tech Center Drive (drive towards the airport, on the right). The Tech Center Drive temporary parking is only for August 26-27. A BT stop will be installed at the temporary lot to transport students back to campus on Friday until 10 p.m. and Saturday from 7:30 a.m. to 5:45 p.m. All vehicles must be clear of this location by noon on Monday, Aug. 28. Students can take the Campus Circulator (in front of Wallace Hall) out to the temporary lot.

Before the game starts at 8 p.m. on Sunday, traffic on Washington Street, Tech Center Drive, Southgate Drive, and Spring Road will become one way toward the football stadium. Traffic on Duck Pond Drive will become one way toward B-Lot (only to Washington Street). After the game the streets’ directions will reverse until the traffic flow returns to normal. The public will be charged $55 for parking during football games. This only applies to those who do not have a valid VT parking permit (there is no charge for those displaying a permit). The lots used by the public will be B-Lot (large commuter lots off Prices Fork Rd), and Derring, Hahn, Davidson, Solitude, and Price/Sauders 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. The shuttles will leave about every 10 minutes. Extra shuttles will also run on the Oak Lane route, aiding guests who park in the Overflow Lot (located behind Duck Pond). These shuttles will leave the BT shelter at five minutes and 35 minutes after the hour. They will also wait at the shelter in front of I Lot (the “Cage” located at the end of Washington Street) leaving at 10 minutes and 40 minutes after the hour. The buses will run all routes until 1:30 a.m. following the game. A shuttle will also run to the Airport starting three hours before game time until one hour after.

For more information, call Parking Services at 1-3200 or, after regular business hours, the University Police Department at 1-6411.
Academy for Leadership Excellence recognizes outstanding leaders

The Academy for Leadership Excellence held its annual awards luncheon in July to recognize the two recipients of this year’s outstanding leader award and to recognize and welcome this year’s new fellows to the Academy.

Linda Woodard, assistant vice president for Personnel Services, Dick Harshberger, director of University Leadership Development, and Steve Janosik, academy program coordinator, presented this year’s Leadership Award to Colonel F. Edward Schwabe, deputy commandant of cadets, and Diana M. Clark, executive secretary to Head Football Coach Frank Beamer. The award recognizes university employees who have exhibited outstanding leadership qualities through superior job performance, job-related extracurricular activities, committee work, and other areas of service to the university.

Major General Jerald P. Allen, commandant of cadets, highlighted Schwabe’s leadership performance in the development of the Cadet Leadership School, the Emerging Leader Scholarship, and the new Academic Minor in Leadership Studies. Head Football Coach Frank Beamer, and Judi Lynch, director of undergraduate recruiting for the College of Engineering, highlighted Clark’s leadership performance as a key “behind the scenes” player contributing to the success of the football program through numerous important dealings with players, parents, coaches, and outside groups.

In addition to the Leader Awards, members of the 99-00 ALE class were recognized as new fellows in the academy with certificates.

Each year, the academy initiates a class of nominated leaders from across the university to participate in a series of workshops and developmental programs focused on various leadership topics. Participants who complete the program are inducted into the academy as fellows.

The academy seeks to facilitate the development and application of leadership skills within the university by providing developmental opportunities for individuals in leadership positions.

Special recognition for outstanding service to the academy was given to Woodard, Steve Janosik and Laura Bayless, who were inducted into the academy as distinguished fellows.

By Sally Harris

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Engineering students sweep summer competitions

Virginia Tech engineering students and the vehicles they created returned triumphant from design competitions this summer.

The Virginia Tech Autonomous Vehicle Team swept their national contest. The engineering students, under the direction of faculty advisor Charles Reinholz of mechanical engineering (ME), won first place in all four categories during the Intelligent Ground Vehicle Competition held in Orlando, Florida, in July.

An autonomous vehicle is a mobile robot that can navigate and drive completely by itself, with no human intervention. This year, the Tech team entered two unmanned vehicles. Artemis, built two years ago, has a revamped computer system, resulting in first-place wins in the follow-the-leader, debris course, and obstacle course events.

For the 2000 competition, the team built a new vehicle, Navigator, replete with a pair of color video cameras and a scanning laser range finder. Navigator, which is designed to carry land-mine metal detectors, won this year’s design competition and also took second place in the follow-the-leader event. This is the first year that a single team has won in all four categories, Reinholz noted.

Pegasus, a “flying car” created by a team of engineering students from Virginia Tech and Loughborough University in England, won first place in the 2000 General Aviation Design Competition. This is the first time an international team has won the competition, which is sponsored annually by the National Aeronautics and Space Administration (NASA) and the Federal Aviation Administration (FAA).

The competition challenges teams of university engineering undergraduates to develop original designs of aircraft. Pegasus is an “appropriate name for a vehicle that travels by road and/or air,” said Jim Marchman, professor of aerospace and ocean engineering (AOE) and faculty advisor for the Virginia Tech team. “Every general-aviation pilot has experienced the need for such a vehicle when grounded by bad weather, or when in need of a car after landing at a small airport.”

The team of 16 Virginia Tech and 12 Loughborough students designed Pegasus to meet or exceed the capabilities of top-notch general-aviation aircraft, such as the Cessna Skylane, and to match or better the highway performance of a sports car.

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By Kimberly Richards-Thomas

Football fans at the season opener against Georgia Tech on August 27 will be the first to appreciate 3,000 additional seats and a new 36-by-91-foot video scoreboard recently installed in the north end zone. Even with the new seating, all regular-season games are sold out.

The electronic scoreboard is mounted over 50 feet high, with a high-resolution, true-color video screen that is 21 feet tall. In addition to instant replays, the display screen will run animations and specially made videos. Hokie fans arriving to games early will see a video sequence developed to run in conjunction with the team’s entrance onto the field.

This will add real entertainment value for fans,” said Tom Gabbard, associate director of athletics. “They’ll get the best of both worlds, seeing the game live, but still having the benefit of instant replay.” In addition to standard scoreboard statistics, the new board displays rushing yards, passing yards, and total yards for each team.

According to Gabbard, the Jumbotron was recently installed by-91-foot video scoreboard recently installed in the Rose Bowl Stadium in Pasadena, California.

By Sally Harris

The College of Arts and Sciences held its fourth annual staff picnic, a kick-off to the upcoming school year on August 14.

Approximately 165 staff members, department chairs, directors, deans, and custodial staff members of the college attended.

The college has an appointed committee of staff members who work on staff educational development and social events as this to promote education and morale among staff members.

For more information about the College of Arts and Sciences Staff Development Committee, contact Bill Boubout at 1-6578 or bbebout@chemserver.chem.vt.edu.

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This will add real entertainment value for fans,” said Tom Gabbard, associate director of athletics. “They’ll get the best of both worlds, seeing the game live, but still having the benefit of instant replay.” In addition to standard scoreboard statistics, the new board displays rushing yards, passing yards, and total yards for each team.

According to Gabbard, the Jumbotron was recently installed by-91-foot video scoreboard recently installed in the Rose Bowl Stadium in Pasadena, California.

By Sally Harris

The College of Arts and Sciences held its fourth annual staff picnic, a kick-off to the upcoming school year on August 14.

Approximately 165 staff members, department chairs, directors, deans, and custodial staff members of the college attended.

The college has an appointed committee of staff members who work on staff educational development and social events as this to promote education and morale among staff members.

For more information about the College of Arts and Sciences Staff Development Committee, contact Bill Boubout at 1-6578 or bbebout@chemserver.chem.vt.edu.

By Kimberly Richards-Thomas

Football fans at the season opener against Georgia Tech on August 27 will be the first to appreciate 3,000 additional seats and a new 36-by-91-foot video scoreboard recently installed in the north end zone. Even with the new seating, all regular-season games are sold out.

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

An EOS/Aa employer committed to diversity.

Accountant, N/A, Grade 9, Virginia Tech Foundation.
Administrative Assistant, 0016T, Grade 7, University Registrar.
Animal Care Supervisor, 6998J, Grade 11, Veterinary Teaching Hospital.
Animal Care Technician B, 496J, Grade 5, Veterinary Teaching Hospital.
Applications Analyst, 1226L, Grade 0, WARD.
Applications Analyst, 2145L, Grade 0, WARD.
Architect Senior, 7643G, Grade 13, Office of University Architect.
Banquet Manager (Food Operations Manager Assistant), 11183G, Grade 6, DBHCC.
Boiler Operator, 7312G, Grade 6, Power Plant.
Boiler Operator Assistant, 332G, Grade 4, Power Plant.
Budget Analyst, 6927T, Grade 10, Budget/Financial Planning.
Business Researcher, 7616D, Grade 11, VTIC.
Campus Center Director (Event Planning Manager), 1954J, Grade 1, UUSA.
Capital Outlay Program Assistant Director, 7597G, Grade 15, Capital Design/Construction.
Certified Nurse Practitioner/Physician Assistant II, 7634G, Grade 14, Health Center.
Computer Network Support Technician, 7660J, Grade 9, CWT.
Computer Network Support Technician II, 6499J, Grade 9, UUSA.
Computer Network Support Technician Senior, 3492G, Grade 10, EHSS.
Computer Systems Engineer, 0180T, Grade 14, Computer Science.
Data Warehouse Architect, 6701L, Grade 0, IS/IC.
Development Assistant, 1964L, Grade 6, University Development/Corporate/Foundation Relations.
Electrician, 7655G, Grade 7, Physical Plant.
Electronic Information Coordinator, 5502D, Grade 12, Publications/University Relations.
Electronics Technician, 7656J, Grade 9, VTTI.
Executive Secretary, 7473T, Grade 6, Provost.
Executive Secretary, 4466T, Grade 6, MME.
Executive Secretary Senior, 2407M, Grade 7, BSE.
Fiscal Technician, 1102F, Grade 6, University Controller.

Twelve full-time food-operations positions available; five part-time positions.
Food Operations Manager A/Sous Chef, 0395H, Grade 8, Residential and Dining Programs/Off Campus.
Food Operations Manager A/Sous Chef, 0940H, Grade 8, Residential and Dining Programs/Southgate Bake Shop.
Food Operations Manager B/Executive Chef, 0266H.
Food Operations Manager B/Executive Chef, 0266H, Grade 10, Residential and Dining Programs/Shultz Dining Center.
Housekeeping Supervisor, 0824H, Grade 4, RDP.
Housekeeping Supervisor, 0824H, Grade 4, RDP.
Housekeeping Worker, 7605C, Grade 1, Physical Plant.
Housekeeping Worker Senior, 8926H, Grade 3, RDP.
Interpreter for the Deaf, 7472J, Grade 8, Dean of Students.
Laboratory Instrument Maker, 1005T, Grade 10, ISE.
Laboratory Specialist, 7624T, Grade 8, Chemistry.
Laboratory Specialist, 7645M, Grade 9, PPWS.

FACULTY POSITIONS

INSTRUCTIONAL

Department of Large Animal Clinical Sciences. Assistant/Associate Professor, Large Animal Surgery. Contact: Craig Thatcher, Phase II (0442). Review begins December 1.

Department of Small Animal Clinical Sciences. Assistant/Associate Professor, Neurology. Contact: Don Barber, Phase II (0442). Review begins January 8.

NON-INSTRUCTIONAL

Virginia Cooperative Extension. Extension Agent, 4-H Youth Development. #111123, King George Co. Contact: Robert Meadows, 121 Hutcheson (0437). Review begins September 18.
Virginia Cooperative Extension. Extension Agent, 4-H Youth Development. #FA832, Charles City/New Kent counties. Contact: Robert Meadows, 121 Hutcheson (0437). Review begins September 18.
Virginia Cooperative Extension. Extension Agent, 4-H Youth Development. #FA804, Pulaski Co. Contact: Robert Meadows, 121 Hutcheson (0437). Review begins September 18.
**By Jean Elliott**

Stress fractures are debilitating and costly, and they pose a serious problem for physically active military personnel. Female soldiers suffer these fractures along the tibia, or shin bone, at twice the rate of their male counterparts during training. These types of fractures erode physical capabilities and reduce effectiveness of combat training units, especially compromising military readiness.

To combat this issue, the Army is providing a grant to Virginia Tech researchers to study the effects of specialized exercise on bones in young women. Bill Herbert, a professor in the Department of Human Nutrition, Foods, and Exercise, is the principal investigator on this project, which has yielded a grant of $579,421 from the Department of Defense.

“During my tenure here, I don’t think there has ever been a funded human-exercise research project of this magnitude,” said Herbert, who is beginning his thirteenth year at Virginia Tech. “What really made this grant a success was our ability to assemble a very talented multi-disciplinary team that could demonstrate the capacity to combine expertise in exercise physiology, nutrition, bone physiology, and statistics. In addition, we have had invaluable collaboration from long-term colleagues in the local medical community.”

The study will use 160 women between the ages of 18 and 26. It will investigate the effects of 30 weeks of isokinetic-resistance exercise on the non-dominant arms and legs of participants. The exercises do not employ free weights for resistance but use a special exercise machine, the Biodesi®, which controls the speed of the working muscles, thus allowing expression of more force than free weights over the entire range of motion. The contrasting exercises in the study will be a concentric type (muscles shorten while contracting) or eccentric type (muscles lengthen as contraction occurs due to external force). These allow for different degrees of high but controlled force loading of the muscles and bones during training, and may promote the kind of bone strengthening that the investigators believe may help protect long bones from stress fracture.

Three objective measurements will be taken four times over the course of this study. A Mechanical Response Tissue Analyzer (MRTA), one of only a limited number of such machines in the world, will be used to gauge the stiffness of the arm and leg bones as the experiment progresses. The MRTA is loaded with software and algorithms specifically designed for bone analysis. This unique painlessly measures the entire tibia or ulna using vibrations and sensors. The shape of a bone may be subject to change through the exercise training, and the reorganization of the bone matrix affects its overall strength. Participants will also have bone density and lean/soft tissue mass measured by a DXA machine, a high-tech body scanner.

While this work has important implications for reducing stress fractures, it also has long-term implications for preserving bone mass and preventing osteoporosis in women. Shelly Nickols-Richardson, who has worked extensively with osteoporosis and nutrition studies, is a co-principal investigator on the research team. Lammie Cross, a professor in Educational Leadership and Policy Studies, will assist in the statistics compilation, which includes a mind-boggling 471 variables. Other major players include Michael Slatyon, a Blacksburg physiologist, who will function as the medical watch dog; Warren Ramp, formerly senior scientist of the Baxter Orthopedic Research Lab at the Carolinas Medical Center in Charlotte; and David Wootten, a clinical exercise physiologist who will serve as the project coordinator. In addition, five graduate-assistant positions will be funded through this research.

The research team is currently working to assemble participants. Interested females between the ages of 18 and 26 can learn more about this study by calling 1-8295 or by accessing www.tibal.ed.vt.edu. Candidates will undergo a physical exam by a physician, as well as a complete skeletal evaluation, blood and urine tests. In addition, all applicants who qualify will be paid a stipend of $160 and have first choice in special one-credit courses in women’s health and fitness. The study is referred to as the TIBIAL Trial, which corresponds to trials in bone-injury abatement for females.

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**Virginia Tech teams with Army on exercise research**

By Jean Elliott

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**Engineering Continued from 5**

Performance of standard automobiles. To achieve this, the students had to design a unique transmission system and automobile drive train that could use an aircraft engine for both flying and driving, Marchman said.

The award was presented at a special ceremony during the Experimental Aircraft Association’s Air Venture 2000 in Oshkosh, Wisconsin, in July. The team of 28 Virginia Tech and Loughborough students will split the first-place award of $5,000, and AOE received $5,000 for continued student participation in aviation project work.

In the national 2000 Future Truck Challenge, held in Mesa, Arizona, in June, the Virginia Tech Hybrid Electric Vehicle Team (HEVT) placed third overall. Their entry was a Chevrolet Suburban, modified to be the first fuel-cell-powered SUV in the world.

After Doug Nelson of ME formed the HEVT and became its faculty advisor in 1994, the HEVT placed either first or second overall during each of the four years of the national FutureCar Challenge, sponsored by the big three automobile manufacturers and the U.S. Department of Energy (DOE).

In 1998, impressed by the HEVT’s performance in modifying standard cars to operate on a combination of electric and gas power, the DOE gave the Virginia Tech team a fuel cell worth $250,000 to turn a Chevrolet Lumina into the world’s first fuel-cell-powered car. Although the additional fuel cells needed to power the converted Suburban didn’t arrive in time for this year’s Future Truck Challenge, HEVT members are confident that their “Zaburban” will place first in the second leg of the competition in 2001.

“DEISEL” (Destroying Inferior Engineering, Simultaneously Eliminating Losers), the Virginia Tech Mini Baja team’s all-terrain vehicle for 2000, placed second in dynamic events and fifth overall among 100 competitors during the Society of Automotive Engineers’ Midwest Mini Baja. During the competition, held in Waukesha, Wisconsin, in June, the all-terrain, oil-powered vehicles raced across obstacles and pulled heavily weighted sleds. Vehicles also were judged on safety, originality and other factors.

Although it is not required in the regional Mini Baja competitions, the Virginia Tech team builds an original vehicle from scratch every year, said Hayden Griffin, head of the Engineering Fundamentals Division and the team’s faculty advisor. “Even though our students have to place first this year, I believe they’re the real winners because of all they learned by designing from scratch,” he said.
Transportation Fellow Pethtel recognized by legislative society for career achievement

By Cindy Wilkinson
Ray Pethtel, university transportation fellow and associate director of the Virginia Tech Transportation Institute, was honored for career achievement at the annual meeting of the National Conference of State Legislatures. The award by NCACL’s Legislative Program Evaluation Society recognized Pethtel’s life-long contributions to the state legislative process.

In bestowing the award, the society referred to Pethtel’s pioneering contributions in legislative oversight at the state level. Specifically cited were his accomplishments as founding director of the Joint Legislative Audit and Review Commission and his early efforts to establish a professional legislative association.

Pethtel worked for the New York State Legislature as assistant director of the Legislative Commission on Expenditure Review. LCER was the first state legislative agency dedicated solely to the review and evaluation of state government programs.

In 1974, the Virginia General Assembly confirmed Pethtel as the founding director of the Joint Legislative Audit and Review Commission. Under his leadership, JLARC received national awards for excellence in research and productivity, and Pethtel was honored by his peers for his efforts. He served 12 years with JLARC.

In 1986, Governor Gerald Baliles appointed Pethtel as commissioner of the Virginia Department of Transportation and chairman of the Commonwealth Transportation Board. He was re-appointed by Governor Douglas Wilder and served as commissioner for eight years.

Pethtel retired from transportation board in 1994. He subsequently joined Virginia Tech as university transportation fellow, assigned to facilitate approval and construction of the “Smart Road,” a project he had championed as commissioner.

In addition to his transportation-related duties, Pethtel is a faculty member of the Center for Public Administration and Policy where he teaches transportation policy and administration and professional practice skills. He was recently named director of an emerging Institute for Policy Outreach. Pethtel is the immediate past president of the New Century Technology Council. In 1999, he was elected vice-chairman of the Virginia Technology Alliance.

The Virginia Tech Roanoke Center (formerly Roanoke Valley Graduate Center) has moved to the new Roanoke Higher Education Center (RHEC).

The university occupies the seventh floor of the RHEC. The new address at the center is Virginia Tech Roanoke Center, 108 North Jefferson Street, Suite 701, Roanoke, VA 24016. The telephone number from Blacksburg will continue to be 1-3855. The main new telephone number from all other locations will change to (540) 767-6100 (from 857-7900), and the new fax number will change to (540) 767-6110 (from 857-7371).

RVP moves to new facility

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that the logo was comprised of the letters RVP.

The logo prominently displays the letters RVP, since it is these three letters that best describe the department to Virginia Tech students and staff members. The symbols inside the letters serve as a visual display of housing, dining, and people.

The images represent each of three operating divisions of RVP: Facilities and Services, Culinary Services, and Residence Education.

The new logo will be used on RVP publicity and publications beginning this fall.

SCOTT Continued from 3

success in initiatives to help our students be successful. She will be greatly missed.”

As associate provost, Scott was responsible for development, coordination, and implementation of university-wide retention initiatives and provided leadership for efforts to improve undergraduate advising. She chaired the provost-appointed task force to study undergraduate advising last year. Scott also oversaw enhanced programs in student-athlete academic support, partnerships with historically black colleges and universities, and collaborations between academic affairs, student affairs, and academic support areas.

Scott received her bachelor’s degree in social work from Virginia Union, a master’s in education from Virginia State, and a doctorate in education from Virginia Tech.

MPRG Continued from 1

“This is a compelling opportunity,” said MPRG’s Brian Woerner, lead investigator for the project. “Teaming with Raytheon enables the MPRG and Virginia Tech to continue our tradition of high-risk, high-return research.”

Along with Woerner, MPRG associates Jeff Reed and Bill Trantler and Warren Stutzman of Virginia Tech’s Antenna Group will focus on advanced-technology development in the areas of re-configurable antennas, signal-processing techniques, mobile-networking innovations, optical networks and several other enabling technologies.

The MPRG also recently expanded its roster of industrial affiliates to include Raytheon; Analog Devices, Inc., a leading semiconductor manufacturer; Anaren Microwave, Inc., a supplier of microwave components; and BAE SYSTEMS, LGIC, Inc., one of the world’s largest defense contractors.