Dingus named interim head of new critical-technologies institutes

By Clara B. Cox

Thomas A. Dingus, director of the Virginia Tech Transportation Institute (VTIIT) and the Newport News Shipbuilding/Tenneco professor in the Via Department of Civil and Environmental Engineering, has received a one-year interim director appointment to guide the newly created Virginia Tech Institutes for Critical Technologies (VTICT) through its formative stages.

“Tom’s work as head of the transportation institute speaks volumes about his abilities to manage a large-scale research initiative. In a short period under his leadership, VTIIT has grown tenfold and has overcome challenges similar to ones VTICT will face as it matures from concept to reality. We believe he is the one person who can quickly move the critical technologies institutes into high gear,” said Mark McNamee, university provost and vice president for academic affairs, in making the appointment.

VTICT will unify collaborating research units under an innovative organizational and financial structure that fosters substantial growth in sponsored research activities for such disciplines as biomedical engineering, nanotechnology and other advanced materials, information technology, transportation technology, and innovative energy and environs construction. The institute’s public policy and university-wide effort that, over time, could include research in all of Virginia Tech’s schools and colleges, he added.

Dingus called the new entity “one of the most important initiatives” for supporting Tech’s goal of rising into the ranks of the nation’s top 30. “VTICT will provide the tools to rapidly increase research productivity in critical areas of engineering and the physical sciences,” he said. “These tools will include resources to strategically invest in state-of-art research laboratories and equipment as well as to invest in outstanding new and existing faculty members and students. We expect to develop both new programs as well as to invest in outstanding research faculty members and their programs currently at Virginia Tech.”

According to Lay Nam Chang, interim dean, whose College of Arts and Sciences figures to be a major player in the new initiative, “VTICT is the university’s means to come up with the innovations that we need to stand out and be a major player in the new initiative, “VTICT is the university’s means to come up with the solutions to national and global problems.”

Engineering dean finalists to be on campus

The Dean of Engineering Search Committee has announced that two finalists will be on campus to interview during the week of September 30.

Hasan Aref, who is currently professor and head of theoretical and applied mechanics at the University of California at San Diego, will be on campus September 30 through October 2.

Esin Gulari, who is currently serving as acting assistant director for engineering at the National Science Foundation (NSF), will be on campus October 2 through 4.

Both candidates will meet with a wide variety of college and university faculty and staff members, students, and administrators. All interested parties are invited to attend the open forums and receptions that follow.

Aref’s open forum and presentation will be Tuesday, Oct. 1, from 4:30 to 5:30 p.m. in DBHCC’s Appalachian/Blue Ridge Room.

Gulari’s open forum and presentation will be Thursday, Oct. 3, from 4:30 to 5:30 p.m. in DBHCC’s room D and E. The reception for Aref will be Tuesday, Oct. 1, from 4:30 to 5:30 p.m. in DBHCC’s Alumni Hall.

Information on November 5 Bond Bill

By Larry Hincker

On November 5, Virginians will be asked to vote on the issuance of general-obligation bonds in the amount of $900,488,645 for urgently needed upgrades, renovations, and new projects for educational facilities; take effect?

These centers will be redesigned to become the hallmark of the full-service centers concept representing all three missions of the university: teaching, research, and outreach. They will connect the full scope of resources represented by the university to provide timely response and leadership to regional needs and opportunities, and their offerings will include both credit and noncredit courses, as well as venues for new research endeavors, Jones said. The university’s center in Falls Church, which administratively reports to the provost, will

Warner to Announce Budget Reductions by October 15

By Larry Hincker

Governor Mark Warner today outlined the process by which he will evaluate state agency budget-reduction proposals. The governor plans to evaluate agency plans in concert with agency heads and selected legislators.

“By October 15, my decisions on this initial round of reductions will be complete, and I will announce them. Based on those decisions, I will submit to the General Assembly a plan specifying the amounts to be reduced by each agency, as the Appropriation Act requires, and the reductions will be implemented for the current fiscal year.

“Let me be clear: not every agency will receive the same percent reductions. Some cuts will be higher; others will be lower. For some agencies, particularly those with substantial other sources of support, reductions above 15 percent may be reasonable.” Warner said.

“Our decisions for budget reductions will be made with an eye toward protecting the commonwealth’s most important tasks—providing for safe communities, educating our children, maintaining a social safety net, and strengthening our economy and the infrastructure that supports it,” Warner said.

All state agencies were required to submit by September 20 three reduction scenarios describing the impact of reductions of 7, 11, and 15 percent.

University Outreach announces restructuring

By Clara B. Cox

Creating a new and broader vision for its outreach mission, Virginia Tech has reorganized University Outreach and changed its name to University Outreach and International Affairs.

The University Office of International Programs (UOIP); the Center for European Studies and Architecture; and Virginia Tech’s extended campuses in Abingdon, Roanoke, Richmond, and Virginia Beach have been moved into the newly named division, while several of its existing units have been restructured.

“This reorganization streamlines the administrative structure, facilitates greater focus, and provides the resources and leadership that will result in more effective programs that span all mission areas of the university,” Provost Mark G. McNamee said in announcing the changes.

The study-abroad facility, which is located in Riva San Vitale, Switzerland, previously reported to the director of UOIP, who had answered directly to the provost. The Office of International Research and Development (OIRD) was already part of University Outreach.

“Coupling the international program units will provide greater opportunity for all members of the university community to participate in learning experiences designed to encourage intellectual growth and the appreciation for international cultures and economics,” said Vice Provost C. Clark Jones, who has headed University Outreach since Jan. 1, 1999.

According to Jones, the new structure “will better facilitate the inclusion of students into international research-and-develop ment activities that will provide them a greater understanding of the complexities of the global marketplace and give them a competitive advantage in their professional careers.”

The four extended campuses added to outreach will constitute the Commonwealth Campus Centers unit in outreach and will report to John Dooley, associate provost of University Outreach and International Affairs.

“These centers will be redesigned to become the hallmark of the full-service centers concept representing all three missions of the university: teaching, research, and outreach. They will connect the full scope of resources represented by the university to provide timely response and leadership to regional needs and opportunities, and their offerings will include both credit and noncredit courses, as well as venues for new research endeavors,” Jones said.

The university’s center in Falls Church, which administratively reports to the provost, will...
Nominations sought for Ruffner Medal, University Distinguished Achievement Award

Nominations are being sought for the individuals to be named William H. Ruffner Medal or University Distinguished Achievement Award recipients.

The Ruffner Medal provides recognition to individuals who have performed notable and distinguished service to the university. Its name honors a member of the initial board of the institution who was instrumental in shaping the curricula of the fledging college. Ruffner also was Virginia’s first State Superintendent of Public Instruction.

Examples of such service would include outstanding achievement in efforts devoted to the promotion, improvement and development of the university’s mission as a land-grant university; significant service on one or more of the official, informal, university-related, or otherwise designated advisory, counseling, volunteer, or action groups serving the university; and extraordinary interest in and support of (including material support) the well-being of the university and its students, faculty and staff members in efforts to provide educational opportunities and research and public-service programs on behalf of the citizens of the state and nation.

No individual affiliated with Virginia Tech as a student, faculty or staff member, administrator, trustee, or in any similar capacity is eligible for the Ruffner Medal until at least 12 months after ending their affiliation.

The University Distinguished Achievement Award is awarded for nationally distinguished achievement, personal and/or professional, in any field of endeavor of enduring significance and value to the society; and an identifiable and appropriate relationship with the university, so that presentation of the award would reflect favorably both on the award recipient and the institution.

The same restriction regarding university affiliation applies to the University Distinguished Achievement Award as to the Ruffner.

While most persons selected for the award will likely be alumni or alumnae, or previously would have had some faculty, staff, or trustee relationship with the university, the above would (See NOMINATIONS on 4)

Speaker selected for Hispanic Heritage Month keynote address

By Juliet Crichton

Judge Marilyn Milian, who last year became the first female judge to preside over television’s syndicated courtroom show The People’s Court, will present the keynote address for Virginia Tech’s Hispanic Heritage Month celebration. The October 3 event begins at 7:30 p.m. in Squires Commonwealth Ballroom, and is open to the public.

Fluent in Spanish, Milian spent a year at Harvard Law School as the director of training for the Guatemala Project, responsible for training the Guatemalan trial judiciary, defense, and prosecution bar in investigatory and trial techniques. She served from 1984-1994 as an assistant state attorney for the Dade County State Attorney’s Office, followed by an appointment by then-Gov. Lawton Chiles to a five-year stint in the Miami County Court in the Domestic Violence, Criminal, and Civil Divisions. In 1999, Florida Governor Jeb Bush appointed her to the Miami Circuit Court, where she served in the Criminal Division.

Milian received her undergraduate degree from the University of Miami, graduating summa cum laude with a 4.0 grade average. She then graduated cum laude from Georgetown Law School.

Milian’s talk will be the highlight of the Virginia Tech Hispanic Heritage Month celebration. The theme for this year’s celebration is “Where we’ve been, where we are, and where we are going” (“El pasado, el presente y el porvenir”).

For more information, call Kimberly Philpott at 1-3787.
The Research Division’s on-line “Funding Resources” site has two new web pages, focusing on humanities and social sciences and homeland security.

From www.research.vt.edu/funding/, select “Funding Resources” then “Special Topics” or go directly to www.research.vt.edu/fau/credit/specialtopics.html.

The humanities and social-sciences page (www.research.vt.edu/fau/credit/specialtopics.html) provides links to funding resources: databases, alert services, federal agencies, foundations, and recent announcements from the “Opportunity Update.”

The seven topics under homeland security are national and international security issues, weapons technology, sensor-and-surveillance technology, safety and disaster-response issues, peace and international affairs, Afghanistan and Middle Eastern studies, and biosecurity, health, and safety issues. In addition to funding resources, each also links to relevant reports and to pre-defined Community of Science funding searches.

The web sites are maintained by Liz Ackerman, web master for the Office of the Vice Provost for Research. To receive the weekly Opportunity Update e-mail, contact Ackerman at lizackerc@vt.edu.

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Continued from 1 Supercomputer Center. He has been in his current position at University of Illinois since 1992, except for a one-year appointment as interim chief information officer for the institution.

Gulari was educated at Robert College in Istanbul, Turkey, and completed her master’s and Ph.D. in chemical engineering at the California Institute of Technology. Beginning in 1979, Gulari served as assistant, associate, and professor of chemical engineering at Wayne State University, where she was the then-appointed chair of the Chemical Engineering and Materials Science Department in 1993. In 2000, she was appointed division director of the Chemical and Transport Systems Division at NSF and then as acting assistant director of engineering since September 2001.

Virginia Tech Research Magazine now available electronically.

The Summer 2002 Virginia Tech Research Magazine is now available at: www.research.vt.edu/vtmag/. Topics in this issue include infectious disease research, including avian influenza control; non-timber forest products, a potential source of immense profit in the deep forests of Appalachia; faster, safer, cheaper, air travel using small airplanes; composer Kent Holliday’s music, which commemorates people, events worldwide; using virtual reality to study structure; using model airplanes to scout fields for pest infestation and disease; scholarship to campus location. The ORU’s employ full-time researchers and support personnel with strong linkages to academic units through faculty and student involvement; provide a high return on investment, and play a primary role in elevating the status of the associated university. According to McNamee, VTITC will incorporate the common features of the ORU’s that have produced strong economic growth.

A task force is being organized to raise the $85 million needed by 2007 to fund the institute. Co-chairs are A. Clifton Lally Jr., vice president of technology for Philip Morris USA; Ray Martin, chair emeritus of Schnabel Engineering Associates; and Joseph Vipperman Jr., retired executive vice president of American Electric Power.

Dingus, director of the transportation institute since 1996, has conducted transportation-safety and human-factors research since 1984. Before joining the Virginia Tech faculty, he served as associate director of the University of Iowa’s driving-simulation facilities and director of the National Center for Advanced Transportation Technology at the University of Idaho. He has managed nearly $60 million in research funding and has written more than 120 technical publications during his career.

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

FULL TIME

Two full-time food-service positions available.

Analytical Biologist, 008020K, PB 3, VBI.
Biostatistician, 008018K, PB 4, VBI.
Budget Analyst, 006927F, PB 4, BFP.
Business Practices Specialist, 007925F, PB 5, Controller’s Office.
Computer Operation Technician, 008025J, PB 3, VTTI.

Data Integrity Coordinator, 007818S, PB 3, University Development.
Division Head, Construction Services, 007997F, PB 6, CDC.

Employee Relations Program Coordinator, 001073D, PB 5, Personnel Services.
Financial Analyst, 006676Y, PB 4, OPS.
Graduate Staff Support, 002583B, PB 3, CIS.
Housekeeping Worker, 002243H, PB 1, RDP.
Housekeeping Worker, 007767C, PB 1, DBHC.
HVAC Technician, 008001H, PB 3, RDP.
Lab Facility Coordinator, 008021K, PB 4, VBI.
Laboratory Specialist Senior, 007582M, PB 4, VBI.
Molecular Biologist, 008019K, PB 3, VBI.
New Student Processing Supervisor, 001887S, PB 3, Undergraduate Admissions.
Research Specialist, 007732J, PB 3, FWS.
Scientific Glassblower, 001267B, PB 5, CIS.
Software Developer, 008017B, PB 5, Computer Science.

Animal Care Technician, 004768M, PB 1, VTH.
Office Services Specialist, W020596J, PB 2, Schiffert Center.
Postal Assistant, W022549M, PB 2, CVM.
Registered Nurse, W023484J, PB 4, SHS.
Research Specialist, W023489M, PB 3, CVM.
Smart Road Dispatcher, W023483J, PB 3, VTTI.
Storekeeper, W022911M, PB 2, VTH.

OFF CAMPUS

4-H Technician, 008022M, PB 2, VTH.

ADMINISTRATIVE SUPPORT

Assistant to the President, 007411B, PB 3, Engineering/NVC.
Business Practices Specialist, 007413B, PB 3, VBI.
Manager Payroll, 007416B, PB 1, RDP.
Office Coordinator, 007415B, PB 1, RDP.

CAMPUS UPDATE

Sterrett Scholars Awards

The Staff Association for Facilities Employees “S.A.F.E.” recently awarded the William M. Sterrett Sr. Scholarship. The scholarship is available to Facilities employees and their immediate descendants. This year’s recipients were Heather Harris, daughter of David and Rita Harris. David Harris is a Physical Plant Storeroom employee. The second

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collaborate programmatically with the Commonwealth Campus Centers.

In a major restructuring of other program units reporting to Dooley, Doug McAlister, formerly director of Public Service Programs, now heads a new unit called Program Development, which includes Public Service Programs, Continuing Education, the Center for Organizational and Technological Advancement (COTA), Donaldson Brown Hotel and Conference Center, and Hotel Roanoke and Conference Center. Ted Settle, who had led Continuing Education, is now director of the newly formed Economic Initiatives and Marketing Research. The Economic Development Assistance Center, which previously was part of Public Service Programs, now reports to Settle.

The university’s outreach-program activities in Southside Virginia and the Institute for Advanced Learning and Research, which is led by Tim Franklin, complete the program units of the University Outreach and International Affairs division.

“These organizational changes will result in an enhanced capacity for the university to better lead and serve its various communities and customers across all mission areas of the university,” Jones said.

Virginia Cooperative Extension, Albemarle/Greene Counties, Extension Agent: Contact: Steve Umberger, 121 Hutcheson Hall, (0437).
Virginia Cooperative Extension, Fluvanna County, Extension Agent: Contact: Steve Umberger, 121 Hutcheson Hall, (0437).

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Professor’s new system solves problems by tricking computers

By Sally Harris

If people were computers, Srinidhi Varadarajan of the Department of Computer Science could enable them to go back to their youth to correct mistakes they made, adapt a jet engine to run a car, or change part from one SUV engine to another as both vehicles sped down a highway side by side.

Of course, people aren’t computers and don’t need to do those things, but computers need to do equivalent processes. Varadarajan has come up with the method, Weaves, a compiler technology that allows the programmer to use a code in any programming language and convert it to a form similar to object-oriented programming. Weaves technology is used to create a virtual world that tricks the software into thinking it is in the real world.

The global computer network—the Internet—has doubled every year for nearly 20 years. The problem is how to test new pieces of network software on such a grand scale. The traditional method is through computer simulation, such as the model of a jet cockpit in which beginning pilots start to learn how to fly a plane. But simulation requires rewriting the software in a different form to test it, as the original cannot be tested. That creates two different versions, and there is no formal mechanism to ensure the equivalence of the test with the real thing, Varadarajan said.

Another method is emulation, or the direct testing of the original software. That way, the programmer can write a piece of software once and not have to rewrite it for simulation testing. The main problem with emulation is a lower degree of control than simulation. Why not, Varadarajan asked, create a virtual world to make software think it is in the real world?

Weaves can support both simulation and emulation testing, which was Varadarajan’s first goal. “You can’t test a piece of network software on 200-million computers,” he said. Or even 5,000 computers. “But we can create hundreds of thousands of virtual machines that make software think it’s running on a very large-scale network. This leads to the creation of a virtual Internet.”

Weaves can do all the things existing systems can do and more without asking software programmers to write code specifically for Weaves. “They just write it as they usually do and we take it,” Varadarajan said. Then, through reverse analysis, Weaves can make any language look the same.

Also, Weaves allows for mistakes. “In each step in life, we take steps based on what we know,” Varadarajan said. “If we realize we made a mistake and want to go back and undo it, we have to remember all the steps we took that caused the mistake.” On the computer, the program must also remember all the steps made leading up to a mistake. “Trying to save all the information is very hard,” Varadarajan said. “We are trying to make Netscape work without knowing the steps that lead up to the mistake. Weaves automatically does this. It records and saves data and shows what we need to go back in time to change.” Thus the system allows for the weaving together of the languages and codes and for fast automatic checkpointing and recovery with no application support.

With a National Science Foundation CAREER award of $400,000 over five years for his proposal “Weaving a Code Tapestry: A Compiler Directed Framework for Scalable Network Emulation,” Varadarajan will continue research using Weaves, which “uses a novel vertical integration of the compiler-generated object framework, operating system and compiler support for fast and memory-efficient checkpointing, and a new adaptive time window based on parallel-discrete-event-simulation algorithm, all of which work in conjunction.” This would be analogous to enabling a person to adapt a jet engine to work in a car or exchange parts in two fast-moving vehicles without stopping them.

As all CAREER awards require an educational component, Varadarajan will develop learning modules to augment the simulation-based projects used in networking courses across the country to save students from spending an inordinate amount of time learning the intricacies of working in a simulation environment.

The solar house on the Mall in Washington, D.C. is part of the Solar Decathlon. (R. Dunay)

Solar house transported to D.C. safely

By Sarah Newbill

Last week marked a milestone in Virginia Tech’s entry in the national Solar Decathlon competition as the team’s 350-square-foot solar house was successfully transported and set up on the Mall in Washington D.C. alongside 13 other competing houses from all over the nation.

Following the opening ceremony, competition began with judging in 10 specific categories. Public tours of the competing houses will continue through October 6, with the final winner announced on October 5.

Daily rankings for the Tech entry will be published during active competition at http://www.even.doc.gov/solar_decathlon/ follow.html. As a part of the graphics and communications category of the competition, the teams are required to post daily diaries about their experience in the Solar Decathlon. These diaries will be posted from September 30-October 4 at the link listed above.

The Virginia Tech Dairy Club was named the outstanding student affiliate, the Dairy Science Association Student Affiliate Meeting in Quebec in July.

The last time we had a first-place win was in 1994,” said David R. Winston,Extension dairy scientist and a club adviser. “Since 1980, though, this is the eleventh time we’ve been first place. So we’ve put a long dry spell behind us.”

Nine other student chapters nationally competed against Virginia Tech for the outstanding chapter award. Judges looked at such indicators as membership, club activities, and participation at student affiliate meetings.

In addition to being named the outstanding student chapter, the Virginia Tech Dairy Club also received a first-place award for its scrapbook, and third-place awards for its yearbook and web site. Ten students from the 65-member club and five advisers attended the Quebec meeting.

Ray Nebel, professor of dairy science, was named outstanding adviser in the national organization. Winston was elected first-year adviser.