Zahm, Eyre to speak at fall Commencement exercises

By Susan Dickerson

Professors Diane Zahm and Peter Eyre will be the keynote speakers at the university’s fall 2004 Commencement ceremonies.

Zahm, associate professor of urban affairs and planning in the College of Architecture and Urban Studies, will be the keynote speaker at the fall 2004 Undergraduate Commencement ceremony. Eyre, former dean of the Virginia-Maryland College of Veterinary Medicine (VMRCVM) and professor in the department of biomedical sciences and pathobiology, will be the keynote speaker for the fall 2004 Graduate School Commencement ceremony.

Zahm’s experiences include conducting crime prevention through environmental-design training for a variety of communities and organizations; providing technical assistance and consulting services to several architectural firms; and publishing, Designing Safer Communities: A Crime Prevention Through Environmental Design Handbook. The Urban Land Institute recently published her paper, “Why Protecting the Public Health, Safety and General Welfare Won’t Protect Us From Crime.”

Zahm was the 1993 recipient of the G. Paul Sylvestre Award, given by the U.S. Department of Justice, Bureau of Justice Statistics, for outstanding achievement in advancing criminal-justice statistics. In 2004, she was selected to give the Robert DeVoursney Lecture on Crime and Violence Prevention at the University of Virginia Department of Urban and Environmental Planning. She also was the recipient of the

Next issue to be last for Spectrum

As first announced earlier this semester, Spectrum will cease publication following the Dec. 17 issue.

The printed publication is being replaced by Virginia Tech News, a daily, multi-media news-and-information service that will keep all members of the university community informed with up-to-the-minute campus news and notices.

Archived copies of Spectrum for recent years will still be available at http://scholar.lib.vt.edu/etpubs/spectrum/. Campus departments which have published inserts in Spectrum will still have the capability to produce their printed publications through Printing Services.

All new stories will be archived at http://www.vtnews.vt.edu/archives.php.

The Virginia Tech News website, which has been on line since September, is located off the Virginia Tech News homepage. The site is also linked from the Blacksburg Electronic Village website, for the convenience of Blacksburg residents, including university retirees, who use the site.

Larry Hincker, associate vice president for University Relations, said the electronic news service offers in-depth up-to-date information to faculty and staff members and students. The Virginia Tech News website features news stories, campus notices, photographs, and the university calendar. News stories include major administrative initiatives, educational programs, research projects and the many accomplishments of faculty and staff members and students. Retirees, alumni, parents and anyone who has an interest in Virginia Tech can now maintain daily contact with events and developments at the university.

Campus notices include a wide range of campus-specific information, such as parking

Murch associate director for Research Program Development

By Barbara Micalle

Randall S. Murch has been named associate director for research program development at Virginia Tech, effective December 6.

Murch, who will be based at Tech’s National Capital Region in Alexandria, will be responsible for strategic planning, and initiating and fostering research relationships between federal, state and local agencies and Virginia Tech departments and centers that focus on life science and bio-security. He will also work closely with The Institute for Genomic Research (TIGR), which recently formed a strategic partnership with Virginia Tech.

Murch joins Virginia Tech from the Institute for Defense Analyses, a leading federally funded research and-development center, where he has served for two years as director of the Technology Discovery and Insertion Group and as a research staff member and study leader for the organization’s Science and Technology Division. He has been responsible for planning and conducting complex, high-impact studies and analyses for intelligence, defense and homeland-security community sponsors.

His professional career includes 23 years of extensive experience in investigations, as well as research, development and applied science and engineering programs at the FBI. He began his career as a field agent, and advanced throughout his career in positions of increasing responsibility and authority. His most recent position, before retiring in 2002, was deputy director of the Investigative Technology Division, responsible for almost 800 personnel, four departments, 19 units, a $650-million budget, all tactical systems for
Events

Friday, 3
Theatre Arts Premiere, 8 p.m., Squires Haymarket Theatre: God Favors the Predator.

Saturday, 4
Football, 1 p.m.: At Miami.
Chamber Music, 8 p.m., Squires Recital Salon.
Theatre Arts Premiere, 8 p.m., Squires Haymarket Theatre: God Favors the Predator.

Sunday, 5
Chamber Music, 3 p.m., Squires Recital Salon.
Theatre Arts Premiere, 8 p.m., Squires Haymarket Theatre: God Favors the Predator.

Monday, 6
VTU Program, 7:30 p.m., Burruss auditorium: "Fiddler on the Roof."

SEMINARS

Friday, 3
MCBB, 12:20 to 1:10 p.m., 102: Pralin: Gregory Ordway, University of Mississippi Medical Center.
Geosciences, 3:30 p.m., 4069: Derrin: Susan Kidwell, University of Chicago.

Activity

Project Success Information Luncheon set
The Center for Academic Enrichment and Excellence will hold its next Project Success Information Luncheon on Reading Day, Thursday, Dec. 9 from noon to 1 p.m. at the Alumni Hall in the Donaldson Brown Hotel and Conference Center.
The luncheon is aimed at providing current Project Success students and facilitators an opportunity to share their thoughts about Project Success with others in the hope of encouraging our guests to consider joining the program this spring as co-facilitators. It will also provide a chance for those interested in getting involved in Project Success to ask questions about the program.
Project Success is a semester-long program that assists probationary students in improving their academic performance by enhancing skills such as time management and study skills and by learning more about themselves and the university.
Faculty and staff members, administrators, and graduate students are recruited each semester to serve as co-facilitators for the student groups. Former PS students also serve as peer facilitators to provide the student’s perspective. Training is provided so that the facilitators will feel comfortable in their role. For those who work with Project Success outside of their regular work responsibilities, there is a $250 stipend available for the semester’s participation.

BULLETINS

Project Success Information Luncheon
The Center for Academic Enrichment and Excellence will hold its next Project Success Information Luncheon on Reading Day, Thursday, Dec. 9 from noon to 1 p.m. at the Alumni Hall in the Donaldson Brown Hotel and Conference Center.

Basketball parking information detailed
The next home basketball game is Saturday, Dec. 4. For weekend games these three lots (Coliseum lot, Track/Field House lot, and Tennis Center lot) will be restricted the day before the game to no parking after 5:30 p.m. and all vehicles must be removed from these lots by mid-night or be subject to towing. Signs will be posted at the entrance to the three affected lots the day before the game.
Public parking for home games will be located in Lilton-Reaves lot, the Stadium lot, and in the large fenced resident parking lot off Duck Pond Drive. Those attending the games should park in the large section of the cage closest to the Duck Pond. Handicap parking will be available in Coliseum lot. Public RV’s must park in the Duck Pond lot.

Dossier Workshop scheduled
The Academy of Teaching Excellence will host a Teaching Dossier Workshop on Monday Dec. 6, from 3 to 5

Wednesday, 15
Hanukkah Ends.

Thursday, 16
Pay Date for Faculty and Staff Members.
Exams End.
Staff Senate, noon, 1810 Litton Reaves.

Friday, 17
Fall Commencement, 11 a.m., Cassell Coliseum.
Graduate Commencement, 3 p.m., Cassell Coliseum.
International Student Graduation Reception, noon to 1:30 p.m. (graduate students) and 1 to 2:30 p.m. (undergraduate students), Crumwell Center.

Catering sales workshop to be held
University instructors will host a two-and-a-half day interactive workshop covering an array of topics regarding successful selling in today’s market.
The workshop, designed for catering professionals who want to update their skills and knowledge to better sell in today’s market, will be held Feb. 7 through 9 at the Donaldson Brown Hotel and Conference Center. Registration is $395 and will be accepted until Jan. 25, 2005.
Howard Feiertag and Stuart Feigenbaum of the Department of Hospitality and Tourism Management in the Pamplin College of Business will instruct individuals on how to achieve success in the modern economy through educational presentations, discussions and exercises on the skills necessary for success.

For more information, go to http://www.coted.vt.edu/catering/, or contact Sharon Scott at 1-5567 or e-mail scott@vt.edu.

Housing Office offers help
The Off Campus Housing Office at Virginia Tech currently has a program designed to help new and visiting faculty/staff members find permanent and short-term housing in the New River Valley Area. This program also provides an outlet for faculty and staff members to advertise housing availability or housing needs. The program was designed to make the rental process easier for faculty and staff members.

For more information about the Faculty and staff program, visit website: www.vtoch.nusta.vt.edu, call 1-3346, or e-mail vtoch@vt.edu.

Certified-public-managers society formed
The Department of Human Resource Management in Richmond has established a new Virginia Certified Public Managers Program (VACP). The VACP is a broad-based management development program providing public professionals with training to maximize the effectiveness of government organizations. As part of a national consortium, the certified program offers practitioner-oriented course work that builds upon management-training programs offered through agencies, colleges, and universities. This curriculum uses the foundation of theory and applies it to practical problems facing the participants, their agency/department, and the state. At the completion of each program level, participants have developed practical applications relevant to advancing the mission and objectives of the organizations.
The 300-hour program consists of sequential levels of instruction in management theory and practice. The course work is highly interactive and is delivered primarily through classroom training, distance learning, and online instruction. Additional program hours include project completion, self-study, and electives. Those who complete the program will earn the national designation of certified public manager.

Recently the Virginia Society of Certified Public Managers has been formed and the society has been accepted as a member of the American Academy of Certified Public Managers. Anyone interested in learning more about this new and exciting program may contact Sam Camden at scamden@vt.edu or call 1-4281.
University to launch new outreach initiative with Halifax County

By Susan B. Felker

Virginia Tech and Halifax County, have announced plans to begin a new research-based outreach initiative relating to science, technology, engineering, and mathematics (STEM). Carole C. Inge, who formerly managed Longwood University’s National Institute for Technology in Education Research, will direct the Halifax outreach program.

This program, which will be based at the new Riverstone Technology Park west of South Boston on Route 58, will be designed to stimulate economic development, produce content for the broadband Internet service that is coming to Halifax County, and academic and economic development partnerships with the Southern Virginia Higher Education Center. It will also reinforce the Halifax County school system’s STEM education efforts.

MURCH Continued from 1

William Fitzgerald, chairman of the Halifax County Board of Supervisors, made public a grant of up to $180,000 from the county to Virginia Tech to provide support for the university’s first year of outreach operations in South Boston. “We are looking forward to many years of partnership,” Fitzgerald said. “We have been impressed by the contributions to Southside Virginia through the Institute for Advanced Learning and Research in Danville and invited the state’s largest research university to join us in building the local economy in Halifax County.”

John E. Dooley, vice provost for outreach and international affairs, said the university will play a role in the expanding STEM education in the region and will be seeking partnerships toward that end. “This is a research-driven initiative,” Dooley said. “We will use advocate for the expertise the university offers the nation,” said Brad Fenwick, Virginia Tech’s vice president for research. “He has demonstrated significant leadership during more than two decades with the FBI and is recognized for his service to several academic societies and government agencies.”

Fenwick also said Murch is the first member of a growing agency-relations staff. “We welcome Dr. Murch to our staff in the National Capital Region as we move forward with our mission to establish Virginia Tech’s presence here in the metropolitan area and further enhance our research capabilities, particularly in the life sciences and biosecurity,” said Jim Bohland, director of operations for the National Capital Region.

Murch earned a B.S. degree from the University of Puget Sound, Tacoma, Washington, an M.S. from the University of Hawaii, Honolulu, and a Ph.D. from the University of Illinois, Champaign-Urbana.

NSF Continued from 1

defense mechanism works. Young maize—the young seedlings and any growing tissues and organs—has two enzymes that help protect against insect attacks. Beta-glucosidases reside in the cell walls, while the beta-glucosidase aggregating factor (BGAF), which is a protein, is associated with the surface of the cell. When an insect starts gnawing at the young maize, it breaks the cell walls. The enzyme beta-glucosidase breaks the DIMBOA-gluco side down into glucose and DIMBOA, and the DIMBOA is toxic to insects. However, 14 of 463 jobbed lines of maize tested in a study seemed to lack the enzyme. They are called NULL.

Using spectrophotometric detection, Esen and Bevan found that all the NULL lines actually had active beta-glucosidase, but the enzyme became aggregated and could not be extracted efficiently. From this discovery, the scientists knew the enzyme was there, but something was keeping it in the large aggregate.

The researchers then found that the cause of aggregation was another protein, the beta-glucosidase aggregating factor (BGAF), which is a protein. The scientists hypothesized that one of the functions of BGAF is to recognize mannose sugar. Esen and Bevan recognized that lectins recognize by their carbohydrates and have the ability to recruit other components of the defense system to eventually arrest the development of the foreign elements and kill them. So the beta-glucosidase-BGAF aggregate is involved in defense, Esen said, and believes much like a football team that surrounds the ball carrier and keeps him from moving.

The ultimate goal is to provide evidence of the biological function of the binding and aggregation, understand the defense system, and produce plants that can once again defend themselves. “We’re genetically engineering the plants in an artificial setting to enable them to do what they could originally do: survive on their own.”

SPECTRUM Continued from 1

notices, Personnel Services announcements, job postings, and various administrative policies or updates. The university community is encouraged to submit notices for inclusion in campus notices. All approved Virginia Tech-affiliated organizations may post calendar items to the university calendar.

The university will continue to send emergency e-mail and voice messages in the event that urgent message needs to be conveyed to students, the faculty and staff, or the entire university community.

in the plastid of the maize cells, and their presence here in the metropolitan area and keeps him from moving.

In nature, the two occur as separate proteins, but in all the grass species studied so far, they were fused, probably millions of years ago in the evolution of the Poaceae. The genes usually happen as mutations (and), but if advantageous, they get selected and passed to future generations. Surfaces of cells have glycoproteins that lec tins recognize by their carbohydrate portion and bind to it. The BGAF’s lectin region is similar to lectins that recognize mannose sugar. Esen and Bevan hypothesized that one of the functions of BGAF is in defense when foreign cells such as bacteria, fungus, or viruses try to enter the cell. BGAF probably binds foreign cells, marks them, and recruits other components of the defense system to eventually arrest the development of the foreign elements and kill them. So the beta-glucosidase-BGAF aggregate is involved in defense, Esen said, and believes much like a football team that surrounds the ball carrier and keeps him from moving.

The ultimate goal is to provide evidence of the biological function of the binding and aggregation, understand the defense system, and produce plants that can once again defend themselves. “We’re genetically engineering the plants in an artificial setting to enable them to do what they could originally do: survive on their own.”
Researchers create free, downloadable software radio-design tool

By Liz Crumley
The Mobile and Portable Radio Research Group (MPRG) in the Bradley Department of Electrical and Computer Engineering has developed the fundamental software for use in designing software radios and is offering this tool free to all wireless communications researchers throughout the world.

“The tool available on the Virginia Tech website has already been downloaded by numerous companies and universities from around the world,” said Jeffrey Reed, professor of electrical and computer engineering and deputy director of the MPRG.

“Software radio technology is today where personal-computer technology was in the 1970s,” said Max Robert, the MPRG post-doctoral fellow who led development of the new tool, “OSSIE” (Open-Source Software Communication Architecture Implementation: Embedded).

Software radios can be any devices that use wireless radio-frequency transmission and reception for communications—including cell phones, walkie-talkies, televisions, AM-FM radios, cordless phones, garage-door openers, radar, satellites, shortwave radios, pagers and GPS (global positioning systems), to name a few.

Currently, radios of all kinds perform their signal processing—transmitting and receiving—based on dedicated hardware. A combination TV/AM-FM radio operates with two separate radios, one to receive television broadcasts and the other to receive radio broadcasts. Similarly, a combination garage-door-car-door opener has to be constructed with two distinct transmitters.

This dependence on dedicated hardware limits the function of a radio. For example, a fire chief using a walkie-talkie to contact the walkie-talkie carried by a policeman in a burning building has to hope that the two devices have the same type of dedicated hardware.

Using a software radio, the fire chief could simply load in software designed to communicate with the policeman’s device. This transition would be possible if the signal-processing capability were defined by software, rather than by dedicated hardware. In addition, the fire chief’s software radio could communicate with a variety of other devices, such as cell phones.

The concept of software radios has been especially attractive to the U.S. Department of Defense, which years ago established the Joint Tactical Radio System (JTRS) to create general-purpose hardware that can operate as software-defined radios.

This is where MPRG’s OSSIE comes into play. OSSIE is an operating environment, software that is compatible with the JTRS military hardware and is written in C++, a computer-programming language commonly used by wireless researchers.

OSSIE is an environment within which software radios can be programmed and can operate.

MPRG’s Robert and a team of graduate students first developed OSSIE as a tool for a software-radio research project sponsored by the University of Maryland College of Veterinary Medicine (VMRCVM). Today, the development of its clinical-service programs has become established.

“OSSIE is an open-source tool, which means that researchers can download it for free, in turn, are responsible for sharing their findings at no charge with other researchers,” said Robert. “This will benefit all wireless researchers who are working to develop software radios.”

Researchers can download OSSIE from the Virginia Tech MPRG website at http://www.mprg.org/research/OSSIE.

Tech agricultural scientists work to protect soybean crop

By Mary Ann H. Johnson
Virginia Tech agricultural scientists are taking additional steps in the plan to protect Virginia’s soybean crop from major yield reductions caused by Asian soybean rust, an aggressive fungal disease.

“Soybean rust has not been detected in Virginia,” said David Holshouser, soybean agronomist at the Tidewater Agricultural Research and Extension Center at Suffolk.

The plan was put into action because the U.S. Department of Agriculture’s Animal and Plant Inspection Service (APHIS) announced in November that the disease had been identified in Louisiana.

Soybeans are an important agricultural product. It is the largest row crop in the state, and this year, Virginia soybean producers are harvesting 490,000 acres with an average yield of 36 bushels per acre. Production is expected to total 17.6 million bushels, up 8 percent from last year. The crop’s farm gate value has ranged from $75 million to $100 million annually. This year the farm gate value should be in the range of $80 million.

Virginia soybean producers became concerned about the devastation caused by the disease in Brazil where it now infests more than 90 percent of the soybean crop. The Virginia Soybean Rust Task Force prepared a Virginia Response and Action Plan last summer, said Jim Riddell, Virginia Cooperative Extension agriculture agent in Richmond. The task force includes representatives from the Virginia Department of Agriculture and Consumer Services, Virginia Soybean Association and Board, Virginia Farm Bureau Federation, Virginia Crop Production Association, Farm Credit, and the USDA Risk Management Agency as well as Virginia Tech.

During the 2004 growing season, Virginia Tech used funding from the Virginia Soybean Board to conduct an extensive monitoring program. Fields throughout most of Virginia’s soybean production region were scouted on a bweekly basis from June through September, and soybean rust was not detected. The 2004 soybean crop has already matured and is being harvested.

“Now, we are worried about what might happen in 2005,” said Holshouser.

“Do you think that the fungus would overwinter on alternative hosts (such as kunu and winter vetch) in southern Florida or Texas. Unless the fungus is found in those areas, it would have to be reintroduced from South America or the Caribbean Basin before it could affect Virginia.”

Stronberg said the state has applied for an emergency Section 18 pesticide label for several fungicides to control soybean rust.

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OSSIE is an environment within which software radios can be programmed and can operate.

Researchers also are working to develop soybean cultivars that are resistant to the Asian rust, but fungicides will be the primary line of defense until resistant cultivars become available.

“An action plan describes our educational goals, our pre- and post-confirmation communication plan, and how Virginia will respond once rust is confirmed in Virginia or other parts of the United States,” Holshouser said.

Virginia soybean growers need to stay informed about this potential problem, Holshouser said. If any growers suspect that there is rust, they should contact the local Virginia Cooperative Extension agriculture- and natural-resources agent or a certified crop adviser. That person will take a sample of the suspected area to the nearest Virginia Diagnostic Center. If experts at the diagnostic center suspect rust, the sample will go to USDA-APHIS for confirmation.

“Fortunately, these models indicate the Mid-Atlantic and southeastern states are at most risk,” said Pat Phupps, plant pathologist at the Tidewater center. “Wind patterns, our warm and humid climate, and significant acreage of soybeans and other hosts make Virginia an ideal location for the disease to become established.”