

SPECTRUM

Virginia
Tech
VIRGINIA POLYTECHNIC INSTITUTE AND STATE UNIVERSITY

<http://www.spectrum.vt.edu>

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TODAY'S EDITION

See page 1 for information on university's USAID funding award.

Agency for International Development awards \$34 million

By Susan Felker

President Charles W. Steger announced Wednesday that the university's Office of International Research, Education, and Development (OIRE) has received the largest single-day award to any university by the U.S. Agency for International Development (USAID) Economic Growth, Agriculture, and Trade Program in the form of two grants totaling \$34 million over five years. The work will enhance food security while limiting negative impacts on natural resources through sustainable agricultural programs in developing countries.

Under the terms of the competitively awarded grants, Virginia Tech will be the lead university and the Management Entity (ME) for significant agricultural research-and-assistance programs designed to improve crop yields through ecologically sound practices for people in developing nations around the world. Of the \$34 million,

\$5 million for each of the two projects will be garnered from the USAID missions around the world.

The USAID uses U.S. land-grant universities to promote its development assistance through the mechanism of Collaborative Research Support Programs (CRSP's). There are nine CRSP's, each with a distinct mission.

Virginia Tech is now the only university managing two CRSP projects.

One \$17-million grant provides for Phase III in USAID's Integrated Pest Management Collaborative Research Support Program (IPM CRSP). Virginia Tech also managed Phase I and Phase II for the past 11 years. During Phase III, Virginia Tech will initiate new IPM activities through competitive grants for regional pest-management programs, as well as for pest-management problems of global concern.

The second \$17-million award makes Virginia Tech the lead institution and the

Management Entity (ME) in the Sustainable Agriculture and Natural Resource Management Collaborative Research Support Program (SANREM CRSP), which was formerly managed by another land-grant university with Virginia Tech as a sub grantee for the West Africa program. These ecologically based programs help people in developing countries world-wide implement the latest knowledge to manage natural resources and agriculture with the fewest negative impacts, emphasizing ecologically based management of pests and land-use methods to enhance productivity, food security, and preservation and enhancement of natural resources.

"Virginia Tech's world-class researchers are identifying and addressing problems that challenge the day-to-day lives of people in every corner of the world," Steger said. "And through our strong partnerships with other universities and government and non-

(See OIRE on 4)

Digital Library to help create digital archive

By Clara B. Cox

Digital Library and Archives (DLA), a department in University Libraries, will receive \$250,000 as part of a \$1.4-million partnership that the Library of Congress is awarding to a cooperative of six research libraries to create a MetaArchive of Southern Digital Culture, according to an announcement made by the Library of Congress.

Overall, the Library of Congress is awarding more than \$14.9 million to eight groups of institutional partnerships to identify, collect, and preserve digital materials within a nation-wide digital preservation infrastructure. The institutions will share responsibilities for preserving at-risk digital materials of significant cultural and historical value to the nation. A representative from the Library of Congress will discuss the national project on Oct. 2 at the Symposium on Open Access and Digital Preservation at Emory University.

The project in which Virginia Tech is involved will be dedicated to preserving vital at-risk digital content of Southern culture and history. Virginia Tech; Emory University, the lead institution; Auburn University; Florida State University; Georgia Tech; and the University of Louisville comprise the cooperative.

"Virginia Tech will be involved in both identifying digital collections in need of preservation and developing the software to meet digital preservation needs. Tech will be on the forefront of the movement, encouraged and led by the Library of Congress' National Digital Information Infrastructure and Preservation Program (NDIIPP), to address the needs of an increasingly digital society, one in which digital is becoming the principal medium to create, distribute, and store intellectual content of all kinds," said Gail McMillan, director of Virginia Tech's DLA and one of the cooperative project's co-principal investigators.

Eileen Hitchingham, dean of Tech's University Libraries, said collaborating with other institutions "is the only way to approach a challenge so large as digital preservation. Creating a regional approach ensures that each institution will share the benefits of the MetaArchive while making cultural resources widely available."

According to McMillan, scholars have long been creating documents and displays to enhance understanding. "When those exhibits took physical form, it was assumed that the centerpieces of those objects would be preserved after the exhibit's time had passed," she said, "but more and more of those exhibitions are now taking a digital form in an attempt to reach people world-wide. Time and money are devoted to creating

(See DIGITAL on 4)

\$3.4-million construction-safety effort funded

By Karen Gilbert

In 1990, accidents were responsible for six to seven percent of the world's mortality rate. In industry, the highest injury rate occurs in the construction sector, according to the U.S. Department of Labor.

The National Institute of Occupational Safety and Health (NIOSH) hopes to reverse this trend, awarding Virginia Tech \$3.4 million to investigate ways to help reduce work-related accidents, injuries and fatalities in the small-construction industry. Falls from buildings, scaffolds and ladders are the leading cause of fatal injury in the construction industry. Each year some 38,000 construction injuries are reported, with 21,000 involving days away from work, according to the Labor Department.

"We are looking at introducing research-based changes to the entire construction system to improve the health and safety of construction workers," said Brian Kleiner, the lead investigator on the NIOSH project. Kleiner is an associate professor in the Grado Department of Industrial and Systems Engineering (ISE) and the director of the Macroergonomics and Group Decision Systems Laboratory and the Human Factors Engineering and Ergonomics Center at Virginia Tech.

The researchers are interested in developing the most advantageous work-system designs. In the construction industry, this might address how individual jobs should be designed to improve the entire work system. This improvement includes technical, social and organizational issues that affect the workers. Technology must be designed to be compatible with human

(See FUNDED on 4)



FEVER PITCH Members of the Marching Virginians found plenty to cheer about in Saturday's win over border rival West Virginia at Lane Stadium.

(M. Kiernan)

University leads DARPA efforts

By Lynn Nystrom

Over the next 17 months, Virginia Tech will lead a team of researchers exploring the development of a new class of materials that will use plant-protein structures in an attempt to mimic biological systems. The Defense Science Office of the Defense Advanced Research Project Agency (DARPA) is funding the \$2.1-million project.

DARPA is specifically interested in a group of hard polymers called nastic materials. In biology, nastic refers to the natural movement of plants in response to changes in their environment, such as plants that track sunlight or that stiffen when watered. These movements are caused by changes in the water pressure inside the plant and can result in very large changes in shape.

The goal of the DARPA project, administered by John Main, is to develop synthetic materials that use internal pressure changes to cause large shape changes.

The plan calls for the investigation of the protein structures of plants for the purpose of understanding their role in generating shape changes in natural materials. The protein structures under analysis would then be used to develop a synthetic material to incorporate properties that produce controllable shape.

Ultimately, successful development of the nastic-structure concept will provide a new class of materials based on the direct conversion of biochemical energy into mechanical work. In this manner it will provide a truly integrated 'smart' material that serves as the foundation for a new generation of biologically inspired engineering systems.

In this unique program, researchers will be working with a company on the application of nastic materials to a morphing aircraft wing. This wing would dynamically change its shape and control surfaces during flight.

(See UNIVERSITY on 4)

ACTIVITIES

EVENTS

(Editor's note: For timely and expanded events information, go to the Virginia Tech Events Calendar at <http://www.calendar.vt.edu/main.php>.)

Friday, 8

Theatre Arts Performance, 8 p.m., Squires Studio Theatre: Anton in Show Business.

International Faculty Reception, 5:30 to 7 p.m., Cranwell Center.

Theatre Arts Performance, 8 p.m., Wesley Foundation Theatre: "Nickel & Dimed, The Play."

Saturday, 9

Football, noon: at Wake Forest.

Theatre Arts Performance, 2 p.m., Squires Studio Theatre: "Anton in Show Business."

Theatre Arts Performance, 8 p.m., Squires Studio Theatre: "Anton in Show Business."

Theatre Arts Performance, 8 p.m., Wesley Foundation Theatre: "Nickel & Dimed, The Play."

Sunday, 10

YMCA Hike, 1:30 p.m., YMCA parking lot: Little Stony Creek.

Theatre Arts Performance, 2 p.m., Squires Studio Theatre: "Anton in Show Business."

Theatre Arts Performance, 2 p.m., Wesley Foundation Theatre: "Nickel & Dimed, The Play."

Monday, 11

Columbus Day Holiday for Staff Members.

American Indian Heritage Month Begins.

Clothesline Project Workshop, 9 a.m. to 5 p.m., lower level of Women's Center.

University Ensemble, 8 p.m., Squires Haymarket.

Tuesday, 12

Clothesline Project Workshop, 9 a.m. to 5 p.m., lower level of Women's Center.

Faculty Senate, 7 p.m., 129 McBryde.

Theatre Arts Performance, 8 p.m., Squires Studio Theatre: "Anton in Show Business."

Wednesday, 13

Clothesline Project Display, 9 a.m. to 5 p.m., lawn of the Women's Center.

Clothesline Project Workshop, 9 a.m. to 5 p.m., lower level of Women's Center.

"With Good Reason," 7:30 p.m., WVTF.

VTU Program, 7:30 p.m., Burruss auditorium: "Broadway Nights."

Theatre Arts Performance, 8 p.m., Squires Studio Theatre: "Anton in Show Business."

Thursday, 14

Clothesline Project Display, 9 a.m. to 3 p.m., Drillfield.

Clothesline Project Workshop, 9 a.m. to 5 p.m., lower level of Women's Center.

Horticulture Club Pumpkin Sale, 9:30 a.m. to 6:30 p.m., Horticulture Gardens.

VT Majors Fair, 10 a.m. to 4 p.m., Cassell Coliseum.

Theatre Arts Performance, 8 p.m., Squires Studio Theatre: "Anton in Show Business."

Friday, 15

Pay Date for Faculty and Staff Members.

William Preston Society Weekend.

Ramadan Begins.

Last Day to Resign.

Pi Alpha Xi Bulb Sale, 8 a.m. to 6 p.m., Horticulture Gardens.

Clothesline Project Workshop, 9 a.m. to 5 p.m., lower level of Women's Center.

Horticulture Club Pumpkin Sale, 9:30 a.m. to 6:30 p.m., Horticulture Gardens.

Theatre Arts Performance, 8 p.m., Squires Studio Theatre: "Anton in Show Business."

Saturday, 16

Homecoming.

Pi Alpha Xi Bulb Sale, 9:30 a.m. to noon, Horticulture Gardens.

Football, 1 p.m., Lane Stadium: Florida A&M.

Horticulture Club Pumpkin Sale, following the game, Horticulture Gardens.

Theatre Arts Performance, 8 p.m., Squires Studio Theatre: "Anton in Show Business."

Sunday, 17

YMCA Hike, 1:30 p.m., YMCA parking lot: Buffalo Mountain.

Theatre Arts Performance, 2 p.m., Squires Studio Theatre: "Anton in Show Business."

Monday, 18

YMCA Open Registration Begins: Register online at vtymca.org or at the YMCA Lancaster House.

University Council, 3 to 5 p.m., 1045 Pamplin.

Faculty Women's Club Fall Luncheon, noon, Best Western Red Lion Inn.

Tuesday, 19

Web Course Request Begins.

Thursday, 21

Staff Senate, noon, 1810 Litton Reaves.

Friday, 22

Center for Information Technology Impacts on Children, Youth and Families Lecture, 2 p.m., Fralin Biotechnology auditorium: Yasmin Kafai, UCLA. Reception in atrium lobby at 1:30 p.m.

SEMINARS

Friday, 8

MCBB, 12:20 to 1:10 p.m., 102 Fralin: Todd Primm and Luis Martinez.

Geosciences, 3:30 p.m., 4069 Derring: Shu-Chun Su, Hercules.

Tuesday, 12

Statistics, 3:30 p.m., 409 Hutcheson: Fred Faltin.

Wednesday, 13

Statistics, 3:03 p.m., 409 Hutcheson: Sue Crowling.

Thursday, 14

Statistics, 3:45 p.m., 409 Hutcheson: Eric Slud.

Friday, 15

MCBB, 12:20 to 1:10 p.m., 102 Fralin: Rui Mei, Affymetrix.

Geosciences, 3:30 p.m., 4069 Derring: Paul Silver, Carnegie Institution.

Wednesday, 20

ESM, 4 to 5 p.m., 3 Davidson: G.M. Faeth, University of Michigan.

Thursday, 21

Statistics, 3:45 p.m., 409 Hutcheson: J.D. Williams.

Friday, 22

MCBB, 12:20 to 1:10 p.m., 102 Fralin: Jerry Dodgson, Michigan State.

Geosciences, 3:30 p.m., 4069 Derring: Barbara Bekins, USGS.

BULLETINS

AAUW, YMCA request nominations

The American Association of University Women (AAUW), Blacksburg Area Branch and the YMCA at Virginia Tech are now requesting nominations for their Seventh Annual Women's Leadership Award.

The award will be presented to area women between the ages of 25 and 40, who demonstrate exceptional leadership in the local or Virginia Tech community. Nominations will be accepted until Friday, Oct. 15 and the award will be presented on Wednesday, Nov. 17 at 4 p.m.

Nominees need not be members of the AAUW or the YMCA at the time of nomination and need not be U.S. citizens. For more information, visit website www.vtymca.org/awards.html, call 1-6860, or e-mail yymca@vt.edu.

VAGARA conference scheduled

University members of the Virginia Association of Government Archives and Records Administrators VAGARA, a not-for-profit organization of state employees, will meet in Virginia Beach in November at the 20th Annual Conference. Membership in the professional records-keepers organization is \$10 per year and includes a regular newsletter and meetings which are designed to aid any state employee who handles agency records.

For a membership brochure, or conference details, e-mail Jerry Palmer, at gepalmer@vt.edu.

Bulb sale scheduled

Pi Alpha Xi will hold its annual bulb sale at the Virginia Tech Horticulture Gardens, Oct. 15 and 16. Hours are 8 a.m. until 6 p.m. Friday, and 9:30 a.m. until noon Saturday. The Virginia Tech Horticulture Club will be conducting its Pumpkin Sale Oct. 14 through 16 from 9:30 a.m. until 6:30 p.m., and after the Florida A and M football game on Saturday, in front of War Memorial Gym and the Tech Horticulture Gardens. The Horticulture Garden's Fall Festival in conjunction with the Horticulture Club will be Oct. 30 from 10 a.m. until 4 p.m.

For more information, contact Scott Martin at msmartin@vt.edu.

College Family Day Celebration scheduled

As part of the Virginia-Maryland Regional College of Veterinary Medicine (VMRCVM) 25th anniversary, there will be a "College Family Day Celebration" on Friday, Oct. 8, from 4 until 8 p.m. in the university's new Alphin-Stuart Livestock Arena.

The four-hour event for faculty and staff members, students, alumni and their families will feature dinner catered by the

Poultry Science Club, music, entertainment, games, door prizes, and more.

For more information, e-mail jdouglas@vt.edu.

Clothesline Project to begin

The Clothesline Project, an effort to raise awareness of violence against women, is a visual testimony to the shattering effect of violence against women and the impact it has on society. Survivors of violence and friends and families of victims create shirts with direct messages and strong illustrations.

The Clothesline Project educates the public about the scope of violence against women and the impact it has on individuals, their families and friends, and the community. To create a shirt in a quiet, confidential environment, go to the Women's Center at Virginia Tech (behind McBryde Hall) any time from 9 a.m. to 5 p.m. from Monday, Oct. 11, to Friday, Oct. 15. All materials are supplied free of charge.

There will be displays Wednesday, Oct. 13, on the lawn of the Women's Center at Virginia Tech from 9 a.m. to 5 p.m., and Thursday, Oct. 14, on the Drillfield from 9 a.m. to 3 p.m.

For more information, contact Susan Anderson at 1-8041 (w), 951-2013 (h), or e-mail anderson@math.vt.edu.

(See BULLETINS on 3)

BULLETINS

BULLETINS

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Office Software Program to begin

The Office Software Skills Certificate Program will begin Oct. 18. The program, initiated in 1999, is designed to support the desktop-computer training needs of the university's classified staff members. Participants will be offered basic, intermediate and advanced courses in Word, Excel, Access, PowerPoint, Project, HTML, PageMaker, and FrontPage. This year, at the request of our staff, we will also add Dreamweaver, Flash, Photoshop and Premier.

New Horizons, one of the world's largest independent IT training companies, has been awarded the new training contract and will provide these critical services to our employees.

All courses are scheduled from 8:30 a.m. to 4:30 p.m., and participants receive a New Horizons certificate of completion for each course, worth .7 of one Continuing Education Unit (CEU). Staff members will be limited to two courses per semester thereby allowing greater participation by all staff members.

Upon completion of six courses, participants will receive a major certificate of completion in the Office Software Skills Program. Of the six days, participants must have at least two days of training in each of two different desktop applications.

Registration is based on a first-come, first-served basis. Once classes are full, individuals still interested in attending will be added to a waiting list and contacted by New Horizons if an opening becomes available. Registration for fall semester courses began Oct. 4. To register, go to website <http://www.uld.vt.edu/mainfiles/programs/osst.html> and follow the registration directions. Employees are strongly encouraged to complete a pre-assessment course to determine if they are registering for the appropriate level, particularly given the change in office software providers.

The Fall 2004 schedule is located at <http://www.uld.vt.edu/documents/OSSFALL2004.pdf>.

Women's Studies Program lecture set

The Virginia Tech Women's Studies Program will present a lecture by Shamita Das Dasgupta entitled "Legally Speaking: South Asian women Search for Safety in the USA" Thursday, Oct. 14, at 7 p.m. in 3100 Torgersen. Dasgupta, a pioneer in the area of domestic violence in the South Asian community in the USA, will be speaking on US Immigration law and the issues of violence in the South Asian community. She is the co-founder of Manavi, the first shelter for immigrant South Asian women. The lecture is co-sponsored by Women's Studies, the political-science department, Women's Center, and the Office of Multicultural Affairs, and Humanities.

Saget and Curry to perform

Virginia Tech Union and the Homecoming Court of 2004 will present Bob Saget and Mark Curry live in Burruss Hall on Oct. 12. The doors will open at 7 p.m. and the show will begin at 8 p.m. Tickets are on sale at the UUSA box office in Squires Student Center and are also available online at www.tickets.vt.edu and www.tickets.com. Tickets will also be available at the door before the show. They are \$5 for students and \$10 for general public.

Science Outreach Program sponsors Snapshot

The Virginia Tech Science Outreach Program will sponsor the Blacksburg Watershed Snapshot on Saturday, Oct. 9. In coordination with on campus student organizations, community members are invited to participate in hands-on data collection for World Water Monitoring Day. Kids activities will take place from 10 to 11 a.m. at Brown Farm at the Meadowbrook entrance on Tom's Creek, or at the gazebo on the Tech Duck Pond.

For more information go to website www.worldwatermonitoringday.org or e-mail Llyn Sharp at llyn@vt.edu.

Raine to discuss crime, brain

Adrian Raine, of the University of Southern California (USC), will speak on "Crime, Brain Mechanisms, and Development" in a Department of Psychology lecture at 3:30 p.m. Friday, Oct. 8, in 30 Pamplin Hall.

Raine is the Robert Grandford Wright professor in psychology and neuroscience at USC. For the past 23 years, his research has focused on the biosocial bases of antisocial and violent behavior in children and adults. He has published three books, including *The Psychopathology of Crime: Criminal Behavior as a Clinical Disorder*, and more than 100 journal articles and book chapters on related subjects.

For more information, call Angela Scarpa at 1-2615 or e-mail ascarpa@vt.edu.

YMCA hosting Book Extravaganza

The YMCA is hosting its first annual Book Extravaganza. The book sale will be Oct. 9, with a special preview sale for Virginia Tech staff and faculty members and friends on Friday, Oct. 8, from 5:30 to 7:30 p.m. There will be over 2,500 books for sale ranging from rare and antiques to modern mysteries, first editions, cookbooks, literature, photography, and many more. The sale will take place at the YMCA Thrift Store at 1336 S. Main St. in Blacksburg.

Myers to speak on mass extinction

The College of Natural Resources is sponsoring to a presentation by Norman Myers entitled "Mass Extinction of Species: Why We Should Care, What We Can Do About It" on Monday, Oct. 18, at 3 p.m. in Fralin auditorium. A reception will follow the seminar in the Fralin Atrium. Members of the Virginia Tech community are invited to attend.

Myers, a consultant, is internationally known for his "services to the global environment." He is the recipient of the U.N. Environment Prize, the Volvo Environment Prize, and the Blue Plant Prize, being only the second environmental scientist worldwide to be selected for all three awards.

Distinguished Scholar Lecture set

The Center for Information Technology Impacts on Children, Youth and Families Visiting Lecturer will host the second Glover M. and Frances Graham Trent Distinguished Scholar Lecture Friday, Oct. 22 in the Fralin Biotechnology auditorium at 2 p.m. The lecture, "Learning with Computer Games: What Research and Practice Tell Us," by Yasmin Kafai, University of California, Los Angeles, is open to the public.

There will be a reception in the atrium lobby at 1:30 p.m.

Lab seeking study participants

The Social Development Lab at Virginia Tech is looking for parents and their 9- or 10-year-old children to participate in a study on parents' and children's ideas about emotions. Participants will be asked to complete two brief computer tasks in which they make judgments about emotional words (e.g., glee) and events (e.g., making a new friend). They will also be asked to discuss their reaction to two brief videos showing everyday parent-child and child-peer disagreements. Parents will be asked to complete questionnaires, and children will be asked to draw and explain pictures of their family, best friend, and hero or role model.

Participation will take place at home. Parents will receive \$20 for their time; children will be given a \$5 gift certificate and a Certificate of Appreciation.

For more information, or to schedule an appointment, call 1-8179 or 1-4201; or e-mail socdev@vt.edu or jdunsmor@vt.edu.

Honor society seeks nominations

The Virginia Tech Gamma Omega Chapter of Phi Beta Delta, the Honor Society for International Scholars, is seeking the nomination of qualified faculty and staff members for membership. The society will have a fall induction ceremony this year on Nov. 17. The membership application deadline is Oct. 20. Qualified individuals may be nominated by sending their names to Jerry Berkley-Coats at gberkley@vt.edu.

Natural-resource education offered

The College of Natural Resources is combining natural-resource education with home football games. Before each home game, anyone is welcome to join the college two hours before kickoff in the Engel Parking lot for interesting natural-resources activities.

For more information, call Lynn Davis at 1-6157.



VIRGINIA POLYTECHNIC INSTITUTE
AND STATE UNIVERSITY

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TO THE EDITOR

Virginia Tech is seeking a charter relationship with the State of Virginia. The desire to be free of the state's bureaucratic restraints on travel, accounting procedures, purchasing and expenditure practices, among many other functions, is understandable. It is a seemingly rational thing to do in the face of the expectation that state public support for Virginia Tech is unlikely to grow significantly. Being free of state encumbrances will make for some amount of fiscal savings, though one wonders if solutions to some of those encumbrances cannot be negotiated without the charter idea. But when Virginia Tech frees itself from the state via the charter, it frees the state, its representatives, and the people of Virginia from some of their sense of a continuing public obligation to Virginia Tech.

Of course the "contract" of the charter relationship will specify the state's obligations. But the charter and contract only limit the state's obligation rather than expanding it, not

(See *LETTER* on 4)

EMPLOYMENT

For more information on all faculty and classified-staff positions, see www.jobs.vt.edu.

INSTRUCTIONAL

The Via Department of Civil and Environmental Engineering. Instructor in CAD Applications in CEE.

NON-INSTRUCTIONAL

Assistant Vice President for Strategic Initiatives/Business Analysis.

School of Biomedical Engineering and Science. Director.

Electrical/Computer Engineering. Postdoctoral Associate.

Office of Institutional Research/Planning Analysis. Research Analysts (2 positions).

Research Division Administration. Associate Director for Research Program Development.

Virginia Bioinformatics Institute. PathPort Bioinformatician. (4 positions).

Virginia Bioinformatics Institute.

Pathport Pathogen Software Developer. (3 positions).

Virginia Bioinformatics Institute. Bioinformatics Software Evaluator. (4 positions).

Central District Cooperative Extension. Extension Agent. 4-H Youth Development. Cumberland County.

Central District Cooperative Extension. Extension Agent. 4-H Youth Development, Pittsylvania County.

Southwest District Cooperative Extension. Extension Agent. Horticulture (Small Fruit).

Wood Science/Forest Products. Manufacturing Systems Associate.

Conservation Management Institute. Research Associate.

Northeast District Cooperative Extension. Extension Agent. Agriculture and Natural Resources. Farm Business Management. Culpeper County.

Hasselmann named WIF consulting fellow

D.P.H. Hasselmann, the Whittemore professor of engineering emeritus in the College of Engineering, has been named consulting fellow of the World Innovation Foundation (WIF), the second faculty member at Virginia Tech to be so honored.

The WIF, which has a world-wide membership of about 2,000, including some 60 Nobel Prize winners, provides independent consulting services to governments throughout the world on issues related to the development of science and technology.

Earlier in his career, Hasselmann was presented with the John Jeppson Award with Gold Medal by the American Ceramic Society, the Humboldt Prize (Senior Scientist Award) by the German Government, and the International Thermal Conductivity Award by the ITC Conferences. He was elected to membership of the International Academy of Ceramics and was recently named "Highly Cited Author" by the Society of Information Technology.

UNIVERSITY

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An analogy would be a hawk that is soaring through the sky, suddenly sees its prey, and changes its shape to make a dive towards the intended victim. As the raptor changes gear to dive, it must sense the outside forces and pressures for its trajectory.

Similarly, for an aircraft wing, engineers would need a material that's mechanically flexible. But designers also need a material with a surface that's controlled by sensors and electrical conductors that allow it to do that sensing and change shape accordingly. Properly engineered nastic materials might allow sensors that can be flexed.

Don Leo, professor of mechanical engineering in the College of Engineering and a member of the Center for Intelligent Materials Systems and Structures (CIMMS), is the principal investigator on this project. In addition to several colleagues at other

OIRED

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government organizations, as well as with individual families and farmers, we are putting knowledge to work to give people greater economic self-sufficiency and a more secure future. A strong Virginia Tech faculty and staff, partners, and collaborating institutions are ready to implement these two projects immediately."

"Research results will benefit the countries involved through increased farm income, reduced pesticide use, greater involvement of women in Integrated Pest Management and natural-resource-management decision-making, and increased sustainable agriculture and natural-resource-management research and education," said S.K. De Datta, associate provost for international affairs and director of the Office of International Research, Education, and Development (OIRED). "Virginia and the United States will benefit through reduced pesticide residues on imported fruits and vegetables, expanded demand for our export products as incomes grow in developing countries, and reduced threats from invasive species."

De Datta also said IPM CRSP research over the past decade has assisted the United States, most recently by preparing scientists for an insect invasion that threatened the \$100-million-a-year olive crop in California.

universities, Leo will be working with Tim Long, professor of chemistry in the College of Science, and Lisa Weiland, a research scientist at CIMMS who will soon be joining the University of Pittsburgh's Mechanical Engineering Department.

"As we generate materials that will feature internal pressures that allow the nastic structures to expand and contract, we hope to move on from the morphing wings to a number of other applications that require structures that can produce large shape changes. An example might be a compact container that will deploy into an antenna after it is transported to a particular location," Leo said.

"Biological systems are excellent templates for the development of high-performance engineering platforms. An understanding of how biological systems move, adapt, communicate, and replicate are providing scientists and engineers with novel approaches to engineering problems."

George R. McDowell professor and Extension economist Department of Agricultural and Applied Economics

UNIVERSITY RESPONSE:

The chartered initiative does not change the university's fundamental land-grant mission in any way. Indeed, it can improve the execution of mission by generating the necessary financial resources to run the enterprise. Chartered status deals with operations and financial management.

We have not seen another other feasible solution to solve the chronic funding problem. Like it or not, adequate financial resources have not been forthcoming from the commonwealth over the last decade and half. The political landscape tells us that prospects for significant new monies are not rosy. However, nothing would limit future investments from the

Virginia Tech has been researching and implementing Integrated Pest Management (IPM) for more than a quarter century. IPM identifies and targets crop pests such as invasive pests, insect-transmitted plant viruses, and harmful native pests, using a combination of tactics, including crop management, biological controls, and limited use of pesticides, to reduce both costs and ecological impacts. De Datta said that the goal of the IPM Collaborative Research Support Program is to develop and implement world-wide a replicable, integrated approach to pest management that will reduce agricultural losses, mitigate damage to natural ecosystems, and prevent contamination of food and water supplies. "The program will be designed around Regional IPM Centers of Excellence and cross-cutting global IPM themes, such as invasive species, insect-transmitted viruses, regional diagnostic laboratories, IPM information technologies and databases, and impact assessment. Technical, social, policy, economic, and education issues will be addressed."

Building on Virginia Tech's earlier projects, IPM programs will be established in Africa, Asia, Latin America, Eastern Europe, Central Asia, and elsewhere to address pest management problems and to build institutional capacity.

DIGITAL

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digital images and manuscripts, either as replicas of physical content or as original digital content. However, these digital resources are often not preserved once the online exhibit is removed from the spotlight. That's a tremendous waste of resources and a loss to the public."

Pablo Davis, director of the newly formed South Atlantic Humanities Center, called the project "the sort of initiative the center is eager to foster in order to link humanities scholars in the region."

During the three years the project is under way, the partner institutions will develop a prioritized summary of at-risk digital content of Southern history and culture, pull together the most critical content to be preserved, develop a cooperative agreement for ongoing collaboration, and form a distributed preservation network infrastructure based on

state; this proposal simply says the schools can do it, if the state cannot.

Virginia has operated for many years under a powerful central government philosophy with decisions made in Richmond. Chartered status can be seen as an evolution of the decentralization process, where the state has recognized and endorsed the additional efficiencies and effectiveness that comes with vesting management and operational decisions with the people (all of us) closest to the university.

The authorities that our universities seek under chartered status are not very different from authorities that other land-grant universities already possess in other states under their codes, constitutions, and operating practices.

Larry Hincker, associate vice president for University Relations

As the sub-grantee for West Africa the University of Georgia during the previous phase of the Sustainable Agriculture and Natural Resource Management (SANREM) Collaborative Research Support Program for six years, Virginia Tech helped crop and livestock farmers resolve differences over the land use and access to water. Providing information about weather, soil, cropping systems, livestock management, water availability, and the tools for agricultural and natural resource management resulted in better communication, decision-making, and land use in the region. Researchers also published a book and numerous articles. Four students earned graduate degrees.

As the ME and lead institution for the SANREM program, "Virginia Tech's OIRED will focus the world-wide project on the nexus between sustainable agriculture and natural resource management knowledge—its discovery, organization, and dissemination in and outside the classroom," said De Datta. "We will complement and reinforce the strengths of our development partners who depend upon this knowledge: host country institutional partners, the NGO community and private sector, the donor community, and our research partners in universities, the National Agricultural Research Services, and International Agricultural Research Centers."

LOCKSS software, which capitalizes on the traditional roles of libraries and publishers to create low-cost, persistent digital "caches" of authoritative versions of web-delivered publications. According to McMillan, "The current LOCKSS model enforces the publisher's access control systems. With NDIIPP in mind, Virginia Tech and its partners will modify the LOCKSS software to collaboratively archive each institution's one-of-a-kind historical materials."

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capabilities and limitations. This approach can help improve overall productivity, quality, health, safety, and job satisfaction.

Of the approximately 600,000 construction companies in the United States, 90 percent employ fewer than 20 workers. Most of these smaller construction companies do not have formal safety and health programs. Construction-safety issues range from the more simplified individual task of operating a jackhammer to the team effort of building entire residential communities.

With this funding, Kleiner and his colleagues, representing a cross-section of expertise from six academic departments, are forming the "Center for Innovation in Construction Safety and Health" (<http://www.ictas.ise.vt.edu>) within Virginia Tech's new Institute for Critical Technology and Applied Science (ICTAS). ICTAS is a collaborative university research institute organized to foster and facilitate interdisciplinary research (<http://www.eng.vt.edu/ictas/>).

"We have the institutional framework, facilities and equipment, faculty expertise, multidisciplinary partnerships and enthusiasm to achieve the safety and health-improvement goals necessary to save lives and minimize injuries and accidents," President Charles Steger said.

"As head of the Industrial and Systems Engineering Department, I am delighted to learn that NIOSH, a part of the Centers for Disease Control and Prevention (CDC) has funded this proposal. Dr. Kleiner has assembled an outstanding team of researchers from both the Engineering and Architecture colleges to examine critical occupational health-and-safety issues in the construction industry. I am confident that this funding will enable the researchers to greatly reduce the risk of injury in an industry so vital to the American economy," said Don Taylor, who holds the Charles O. Gordon Professorship.

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withstanding the state does not now come close to fulfilling its obligations to support Virginia Tech. The charter and contract will make it difficult for any future Virginia Tech leader to challenge the state to expand support to the university commensurate with the university's contribution to the commonwealth. But in recent years only a few departments of the university and the business community have taken action or spoken out to remind Virginians that "the pipers must be paid" in the face of major cuts to the university.

The path taken to the Charter University is the path of the University of Michigan described by its former president, James Duderstadt. Duderstadt described Michigan as being a state university when he was first there. Then it became state-assisted, then state-related, and finally, he quipped, "a state-located university." By starting down this path Virginia Tech abandons the original Land-Grant idea of a university serving the people of the state in classroom instruction, research, and outreach.

It is true that the political economy of a Land-Grant university may be among the most complex political landscapes in our society. The folks to be appeased and attended to are all over the place at national, state and even county levels and constitute a major task for the university administration. Chartering the university will circumscribe that landscape, but it will also limit the future opportunities for the university and its claim on the people of the state and their representatives.

