

# SPECTRUM

Virginia Tech  
VIRGINIA POLYTECHNIC INSTITUTE AND STATE UNIVERSITY

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**TODAY'S EDITION**  
See page 3 for information on proposals for Women, Minority Artists, Scholars Series.

## VBI awarded \$2.89 million from NIAID

By Susan Bland

The National Institute of Allergy and Infectious Diseases (NIAID) has awarded Virginia Bioinformatics Institute (VBI) at Virginia Tech \$2.89 million as part of an \$8.74-million contract with Social & Scientific Systems Inc. (SSS) to establish an Administrative Resource for Biodefense Proteomic Research Centers.

Margaret Moore from SSS will serve as principal investigator (PI) and Bruno Sobral, VBI's professor and director, and Cathy Wu, from Georgetown University Medical Center, will work as co-principal investigators (co-PI's) on the project. Sobral will lead VBI's effort to design and implement an integrated Data Management System to collect, store, view, and query proteomics data from all NIAID-funded Proteomics Research Centers.

Proteomics is the systematic study of

proteins in a cell, tissue or organism providing scientists with a rich source of biological data. The availability of an interoperable infrastructure and analysis tools through the Pathogen Portal (ToolBus/PathPort) project at VBI allows scientists to use this data to advance scientific research against bioterrorism agents and in the diagnosis, prevention, and treatment of emerging infectious diseases.

"We are pleased to be involved in NIAID's efforts to improve the nation's defense system against bioterrorism and emerging and re-emerging infectious diseases," Sobral said. "VBI's proven computational abilities with the institute's Core Computational Facility (CCF) and its successful Pathogen Portal technology will further advance research at the Biodefense Proteomic Research Centers."

The initial proteomics Data Management System will store proteomics information,

including source data, experimental protocols, and novel technologies supplied by six Proteomics Research Centers. Free public access to the system and stored information will be provided through a web site. Direct queries and client applications will be enabled through VBI's PathPort/ToolBus interface and other methods.

VBI's CCF will provide disk storage space for raw and processed data. The CCF's six Timelogic DeCypher boards will accelerate specific algorithms related to bioinformatics research, such as BLAST and many more. Both VBI's recent move into the new Bioinformatics Facility I on Virginia Tech's campus and the institute's strong computational partners, Sun, IBM, and Timelogic, will help the collaborative team achieve project goals.

More information is available at [http://www.s-3.com/Pressreleases/Bioinformatics\\_Release.pdf](http://www.s-3.com/Pressreleases/Bioinformatics_Release.pdf).

## Architecture receives \$1.5-million gift from Pulte Homes

By Annette Calhoun

Pulte Homes Inc., of Bloomfield Hills, Mich., the nation's largest homebuilder with operations spanning 41 markets and 27 states, recently pledged \$1.5 million to the College of Architecture and Urban Studies—the largest gift ever received by the college. The landmark gift will establish an endowed professorship in the Department of Building Construction.

In addition to allowing the college to offer more classes, the Pulte Homes Professorship will help the department foster greater teacher-student interaction, contribute to the overall research enterprise at the university, and give the college a greater presence at national industry conferences and gatherings.

William J. Pulte, founder of Pulte Homes and chairman of the Board of Directors, along with other Pulte Homes executives, were recently recognized by Virginia Tech for their generosity at an on-campus ceremony. Pulte Homes sees a bright future for the construction industry and is partnering with Virginia Tech through this professorship and other projects to provide resources for future leaders.

"The level of leadership, business knowledge, and presence that is exhibited by Virginia Tech graduates are coveted traits highly desired by our campus recruiters in the Mid-Atlantic and Northeast areas of Pulte Homes," Pulte said. "Virginia Tech recruits have shown a high degree of success when it comes to performance on the job and career advancement."

President Charles W. Steger along with faculty and friends of the Department of Building Construction were on hand to mark the formal announcement of the gift. "We view today as a monumental event in the history of the department," Steger said. "The top programs are extremely competitive and this kind of gift makes it possible for us to

(See ARCHITECTURE on 2)

## Education M.A. with reading-specialist endorsement offered

By Juliet Crichton

The Department of Teaching and Learning in the College of Liberal Arts and Human Sciences again will offer its 39-credit Master of Arts in education program, "Reading Specialization Endorsement (PK-12)" to Virginia educators this fall.

The degree program, which has been accredited for more than 15 years, is now in great demand, given the extensive requirements of the No Child Left Behind Act and the strong emphasis on reading proficiency among secondary-school students, said Sue Magliaro, director of the Center for Teacher Education.

Designed for experienced elementary- and secondary-school teachers, the program will enroll up to 20 teachers and is comprised of 12 courses, six hours of which are

practica. The second practicum is an academic-year assignment during which degree candidates will undertake school-wide literacy development with other teachers in a school setting.

The program's first course, "Language, Literacy, and Culture," will be offered this fall at the Higher Education Center in Roanoke. Other required courses to be offered in subsequent semesters are "Assessment for K-12 Literacy Instruction," "Practicum in Clinical Reading," "Conducting Literacy Inquiry," "Literacies and Technology," "Review of Literacy Research," "Comprehending Processes and Reading in the Content Areas," "Teaching Composition: Methods and Materials," "Literature for Adolescents," "Advanced Educational Psychology," and "Schooling in American Society."

To be accepted into the program, applicants must have three years of teaching experience, a baccalaureate degree, and a minimum grade-point average of 3.0 (on a 4.0 scale) in the last 60 hours of undergraduate academic credit. The application process requires submission of an admission packet to the Graduate School, three letters of recommendation, and a writing sample verifying the applicant's advanced writing skills, as well as completion of an interview with the department's literacy faculty. Employees of the Virginia public-school system will receive a reduced tuition rate.

For more information about the program, contact Magliaro at 1-5174 or [sumags@vt.edu](mailto:sumags@vt.edu), or visit the program's web site at <http://www.tandl.vt.edu/readingspecialist/index>.

## Tech's 'Centuria' wins NASA aircraft-design competition

By Liz Crumbley

"Centuria," a single-engine jet aircraft designed by undergraduate engineering students from Virginia Tech and their counterparts at Loughborough University in the U.K., has won the Best Overall Award in NASA's 2004 Revolutionary Vehicles and Concepts Competition.

The competition, sponsored by the NASA Langley Research Center's Aerospace Vehicle Systems Technology Office and FAA's Hughes Technical Center, challenged students to develop innovative concepts and systems for future aircraft. The awards ceremony was held July 30 at the Experimental Aircraft Association's AirVenture 2004 in Oshkosh, Wis.

(See CENTURIA on 3)



Virginia Tech and Loughborough University (UK) engineering undergraduates with a mock-up of "Centuria." The students are in aerospace and ocean engineering's stability wind tunnel.

## Interim Department Head Lang appointed

By Sookhan Ho

James R. Lang, professor of management and Strickler professor of entrepreneurial studies in the Pamplin College of Business, has been appointed interim head of the Department of Hospitality and Tourism Management.

Brian Mihalik, who has served as department head for the past five years, has returned to full-time teaching and research.

Lang, a faculty member since 1990, will continue to direct the Pamplin College's Business Leadership Center. He received a Ph.D. from the University of Massachusetts in 1976 and taught at the University of Kentucky before joining Virginia Tech.

# 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, 13

#### Exams Begin.

New River Valley Alumni Chapter 16th Annual Scholarship Golf Tournament, 1 p.m., River Course, Fairlawn.

### Saturday, 14

#### Exams End.

### Monday, 16

Pay Date for Faculty and Staff Members.  
GTA Fall Workshop (Through 8-18).

### Tuesday, 17

Summer II 2004 Grade Sheets Due.

### Wednesday, 18

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

Summer II 2004 Final Grades Available: Web View.

### Thursday, 19

Staff Senate, noon, 1810 Litton Reaves.

International Student Orientation, 9 a.m. to 12:30 p.m., Squires Colonial Hall.

### Friday, 20

New Faculty Development Program, 7:45 a.m., West Club Room, South End Lane Stadium.

New Graduate Student Orientation, 8:30 a.m. to noon, Squires Colonial Hall.

International Graduate Student Orientation, 9 a.m. to noon, Squires Colonial Hall.

International Undergraduate Student Orientation, 9 a.m. to 12:30 p.m., Squires Brush Mountain Room.

### Saturday, 21

Chamber Music, time and location TBA.

### Sunday, 22

Board of Visitors Meets.

### Monday, 23

Classes Begin.

Board of Visitors Meets.

### Tuesday, 24

Faculty Senate, 6 p.m., Hillcrest.

### Wednesday, 25

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

### Friday, 27

Last Day to Add.

## BULLETINS

### The Lighthouse special edition available

While *The Lighthouse*, the Institute for Advanced Learning and Research's newsletter is designed to be distributed every other month, from time to time special updates will be published.

A special edition of *The Lighthouse* for August 2004 is available on line. To view *The Lighthouse*, Adobe Acrobat must be installed on the computer. Adobe Acrobat can be downloaded at <http://www.adobe.com/products/acrobat/readstep2.html>. The url for *The Lighthouse* is [thelighthouse@ialr.org](mailto:thelighthouse@ialr.org).

### Baby Boomers' program offered

"The Baby Boomers' Guide to Successful Ageing," a CommonHealth seminar and discussion program will be held Friday, Aug. 20 from 12:110 to 12:55 p.m. at Southgate Center, Employee Resource Center classroom 142. The program will focus on keys to longevity and successful aging.

Call 1-4806 for more information.

### Former corporation commissioner to speak

Hullihen W. Moore, who recently completed his second term on the Virginia State Corporation Commission, will address "Sustainability, Energy, the Environment and Engineers" on Thursday, Aug. 26 at 7 p.m. in Burruss Hall.

The event is open to the public. Moore's appearance is sponsored by the College of Engineering's Green Engineering Program, the Virginia Tech Student Engineer's Council and the Department of Engineering Education.

Moore was elected by the Virginia General Assembly to serve on the State Corporation Commission in 1992 and was

re-elected for another six-year term in 1998. He was one of three members of the commission. Before service on the commission, Moore practiced public-utility and energy law for more than 20 years. He also has taught economic regulation and public-utility law at the law schools of the College of William and Mary, Washington and Lee University and the University of Virginia.

He is a past president of both the Mid-Atlantic Conference of Regulatory Utilities Commissioners and of the Southeastern Association of Regulatory Utilities Commissioners.

A graduate of Washington and Lee, Moore received his law degree at the University of Virginia, where he served on the editorial board of the *Virginia Law Review*.

### Mandatory international session set

There will be a mandatory international-student orientation session for all new undergraduate and graduate students from 9 a.m. until 12:30 p.m. Thursday, Aug. 19 in Squires Colonial Hall. The session will include essential immigration and other information.

A separate mandatory session for graduate students will be held Friday, Aug. 20 from 9 a.m. until noon in Squires Colonial Hall. The mandatory session for undergraduate students will be held at the same date and time in Squires Brush Mountain Room. For more information on International Student Orientation, call 1-6527 or go to <http://www.uusa.vt.edu/cranwell>.

### Advanced-sales training short course offered

The Center for Forest Products Marketing and

Management will offer its third-annual short course on Advanced Sales Training in the Forest Products Industry. The event will be held from 8:30 a.m. to 4 p.m. Thursday, Sept. 23, and continues from 8:30 a.m. to noon Friday, Sept. 24. The one-and-a-half-day event will be held at the Donaldson Brown Hotel and Conference Center in Blacksburg.

The course's objective is to offer individuals in the forest-products industry ways to develop self-management and communication skills to become more successful salespeople. Registration fees and costs, which have a range, begin at \$325.

For more details on cost or to register, go to [www.conted.vt.edu/astfpi/](http://www.conted.vt.edu/astfpi/). For more information or a copy of the brochure, contact Bob Smith at [rsmith4@vt.edu](mailto:rsmith4@vt.edu).

### 'EZ Permit' system now available

The new "EZ Permit" system is now available for eligible customers to purchase parking permits on-line with VISA and MasterCard. Following an on-line purchase, parking permits will be available at the express pick-up counter located at 455 Tech Center Drive on campus. Parking permits will be ready for pick-up after 2 p.m. the next business day after completing the on-line transaction. The receipt will indicate when the parking permit will be ready for pick-up.

The system is only for credit-card payments; faculty and staff members cannot arrange payroll deduction (pre-tax) payment through this on-line system. A customer's citation, permit and vehicle history is also listed in this system.

The system is available at <https://www.parking.vt.edu/ezpermit>.

## University to host forest-products short course

By Lynn Davis

The Center for Forest Products Marketing and Management will offer its third-annual short course on Advanced Sales Training in the Forest Products Industry.

The event will be held on from 8:30 a.m. to 4 p.m. Thursday, Sept. 23, and continues to from 8:30 a.m. to noon Friday, Sept. 24. The one-and-a-half day event will be held at the Donaldson Brown Hotel and Conference Center.

The course's objective is to offer individuals in the forest-products industry ways to develop self-management and communication skills to become more successful salespeople. Topics will include good salesmanship, effective communication to improve sales, asking effective questions to improve sales, sales negotiations, improving sales through effective time management, trends in the industry, improving sales by improving attitude, and relationship selling for the wood products industry.

The course is open to salespeople in the forest-products industry who care about customer-salesperson relationships and wish to enhance skills in communication, time management, and negotiation.

Along with Virginia Tech's forest products marketing center, sponsors for the short course include the Virginia Forest Products Association, Hardwood Manufacturers Association, and Virginia Tech's Continuing and Professional Education Department.

The instructor for the course is Bob Smith, associate professor of wood science and forest products in the College of Natural Resources and Extension specialist in forest products marketing. Smith, who directs Virginia Tech's forest-products marketing center, has more than 15 years of experience in personal-selling and wood-products field.

Registration fees and costs, which have a range, begin at \$325. For more details on cost

or to register, visit [www.conted.vt.edu/astfpi/](http://www.conted.vt.edu/astfpi/) or print a brochure from web site [www.cfpmm.vt.edu](http://www.cfpmm.vt.edu). For more information or a copy of the brochure, contact Smith at [rsmith4@vt.edu](mailto:rsmith4@vt.edu) or Joanne Buckner at [ctrfpmjo@vt.edu](mailto:ctrfpmjo@vt.edu).

## ARCHITECTURE

Continued from 1

attract and retain the best faculty members."

Pulte credits the work of his leadership team for making this gift possible: Rick DiBella, David Graham, Susan Collins, Robert Fisher, and Virginia Tech alumni Robert Jansen '80, and William Reiser '71.

In its 58-year history, the Department of Building Construction has built a strong national and international reputation. The department's master's degree and Ph.D. programs are considered to be among the very best.

## Orange Effect shirts now available

By Lindsey Leisher

The Student Government Association's 2004 Orange Effect shirts are officially on sale.

This year's slogan, "Every Play is Key," was designed to bring Hokie fans of all ages together to support a Virginia Tech tradition of everyone shaking their keys on third-down plays.

The SGA is working collaboratively with the Alumni Association, Hokie Club, and other various Virginia Tech organizations and departments to fill the stands with this year's T-shirt, sporting the newly designed slogan and a picture of the Hokie's mascot, the Hokie Bird.

The official "Orange Effect" weekend will begin Friday, Sept. 24, and run through

(See ORANGE on 3)

## Women, Minority Artists, Scholars Lecture proposals sought

The Office of the Provost has issued the annual call for proposals for the Women and Minority Artists and Scholars Series for 2004-2005. The deadline for applications is Sept. 17. The fund, as in past years, provides up to \$500 to supplement departmental or college funds in support of guest speakers or performances. Invited speakers may be from any discipline, either gender, any race or ethnicity.

The primary purpose of the program is to increase the number and diversity of scholarly voices and artistic expressions at Virginia Tech from groups that are under-represented on the faculty. Typically, guest lecturers or performers

meet with students, faculty members, and administrators; attend or assist in related classes, and do a public presentation open to the university and larger community where appropriate. The program may also lead, in some cases, to new or strengthened scholarly collaborations or even a serious interest in pursuing an appointment to the faculty. Students should have a significant opportunity to interact with each of these guests so that we can increase their exposure to successful women and minority role models.

Application forms for the WMASLS are

available on line at [http://www.provost.vt.edu/web\\_pages/WMASLS.html](http://www.provost.vt.edu/web_pages/WMASLS.html).

Funds are also available from the NSF Advance project to support visits from women who might be eventual faculty recruitments in the Colleges of Science and Engineering or whose visit would support the goals of Advance. Go to web site [http://www.advance.vt.edu/funding\\_opportunities/AdvanceVT\\_scholars.html](http://www.advance.vt.edu/funding_opportunities/AdvanceVT_scholars.html) for details.

Address questions to Catherine Amelink, graduate assistant, Provost's Office, call 1-5866, or e-mail [amelink@vt.edu](mailto:amelink@vt.edu).

## Popular culture expert pens latest book

By Jean Elliott

Marshall Fishwick's latest book, *Probing Popular Culture On and Off the Internet* (Haworth Press, Inc.), promises to be one of the author's best yet.

Fishwick, a retired professor in interdisciplinary studies, said "In *Probing Popular Culture*, we discover that popular culture has moved into every aspect of American life; politics, economics, society, entertainment, even family life. We have become a culture saturated with popular culture."

Renowned author Tom Wolfe writes this in the book's foreword, "In *Probing Popular Culture On and Off the Internet*, Dr. Marshall Fishwick presents an eye-opening examination of the Information Age's influence on what we do, how we live, and who we are. Peppered with quotes from influential figures ranging from Plato to P.T. Barnum, this book provides food for thought that will spark smart discussion about aspects of popular culture ranging from Henry Ford to Y2K, examining the cultural impact of the September 11 tragedy, and more."

Kathy Merlock Jackson, editor of *The Journal of American Culture*, says Fishwick's latest is "written in a lively, readable style. Engages readers from the get-go, compelling them to think. Fishwick demonstrates his grasp of how the various elements of our popular culture coexist, how they have developed over time, and what they mean. Impressive in its sweep, this book leaves no aspect of our culture unexamined."

"For those who have an interest in using this material in class or in going further in the subjects covered, the book includes an appendix on electronic resources, a good section on further reading, and notes for each of the chapters," said Marvin Wachman, president emeritus of Temple University.

Charles Boewe, former director of Fulbright Foundations in Iran, Pakistan, and India, writes "In the shelfful of books he has published over the past five decades, Marshall Fishwick has helped to make popular the study of popular culture. In this new book he proves the immediate past—the twentieth century—asking a thousand questions of it that the twenty-first century will need to answer."

Fishwick holds several honorary degrees and teaching awards. He received the Lifetime Achievement Award from the American Culture Association and is a co-founder of the Popular Culture Association. Having served as Fulbright distinguished professor in Denmark, Italy, Germany, Korea, and India, he helped establish the American Studies Research Center in Hyderabad, India, which now houses the largest collection of American books in Asia.

## Wireless-access fee for students to be deferred

Communications Network Services (CNS) regularly upgrades and deploys enhanced telecommunications services in support of the university community. For the past year, the pilot Wireless Local Area Network (WLAN) has allowed CNS to provide mobile-network access to registered users. Wireless access during the pilot has been limited to certain key areas of the campus.

The successful pilot phase of the wireless project is drawing to a close. At the end of the 2003-2004 academic year (May 2004), CNS began to install wireless access points at an accelerated rate around the campus. By the beginning of the Fall Semester (August 2004), registered users will be able to access the university's production wireless network in approximately 85 percent of the academic and

administrative spaces.

During the transition to the production WLAN, there will be no changes in the way faculty and staff members register for WLAN service, or in the way it is provisioned.

In July, students currently registered for the pilot WLAN service were notified that, beginning with the Fall Semester 2004, the production wireless service would be come an optional, fee-based service.

After further consideration by the university administration, it has been agreed that wireless access for students is important for their instructional programs and scholarly work. Thus, an optional, fee-based service may not be the best way to support this expectation of a top-30 research university. Therefore, the implementation of the new \$50-

per-semester fee for students to use wireless access will be deferred.

Should students have questions regarding WLAN services, they may be referred to web site <http://www.cns.vt.edu/html/wireless/wlan/wlanstudentletter.pdf>.

Students may also visit the Student Telecommunications Office, located at 120 Student Services Building across from McComas Hall or call 1-3000 (1-3000 on campus). The office is open from 8 a.m. to noon and 1 to 5 p.m., Monday through Friday. Information is also available at CNS web site <http://wireless.cns.vt.edu/>.

For more information on enhanced WLAN services, send e-mail to CNS Public Relations at [CNS\\_PR@vt.edu](mailto:CNS_PR@vt.edu) or call Jeff Kidd at 1-3932.

## CENTURIA

Continued from 1

This marks the second year in a row and the fourth time in the past seven years that Virginia Tech/Loughborough University teams have won first place in NASA-sponsored university design competitions.

This year's team included 15 Virginia Tech students—10 aerospace and ocean engineering (AOE) seniors, two industrial-and-systems-engineering (ISE) seniors and three freshmen in general engineering—and 11

fourth-year aeronautical-engineering students from Loughborough. The team's advisers are Virginia Tech AOE Professor Jim Marchman and Loughborough aeronautical engineering Professor Gary Page.

The team designed Centuria as an aircraft that could replace single-engine, piston-powered vehicles in the general-aviation market, Marchman said. To succeed with this concept, the students had to design a new jet engine optimized for low flight speeds at low altitudes—not the typical jet environment.

"Most designs for general aviation jets aim for high performance and high-altitude flight," said Marchman. "The Virginia Tech/Loughborough team's unique concept is for a plane that would meet the needs of the thousands of single-engine general-aviation pilots whose flying is usually done at altitudes below 10,000 feet and speeds below 250 knots."

## ORANGE

Continued from 2

Sunday, Sept. 26. On game day, fans are encouraged to sport the 2004 Orange Effect T-shirt to show their Virginia Tech pride.

The student body will be able to purchase their T-shirts following the start of the fall semester beginning Sept. 7, at various locations across campus.

In addition to these sales, faculty and staff members, alumni, and friends will have the opportunity to purchase their Orange Effect T-shirts on line through a newly designed web site especially for this year's football season. Visit the web site at [vt.universitysportwear.com](http://vt.universitysportwear.com) to purchase Orange Effect shirts.

"The team selected the name Centuria for their design because they felt it honored the 100th anniversary of flight and reflected the 21st-century technology used in the aircraft," Marchman said. For more information about Centuria and the team, visit <http://www.aoe.vt.edu/design/centuria/index.html>.

Award winners in the 2004 competition placed in three tiers. The Virginia Tech/Loughborough team placed best overall in the top tier, which also included teams from Cornell University and Georgia Tech. Second-tier teams were from Clemson University, Montana State University, Pennsylvania State University and University of Virginia. Teams placing in the third tier represented Ohio University, Penn State (which entered two vehicles) and University of Kansas. A student from Iowa State University won honorable mention for a personal air vehicle.

## EMPLOYMENT

For more information on all faculty and classified-staff positions, see [www.jobs.vt.edu](http://www.jobs.vt.edu).

### INSTRUCTIONAL

**Engineering Education. Instructor (two positions). College of Engineering.**

**Physics Department. Instructor. College of Science.**

**Dairy Science. Assistant/Associate Professor. College of Agriculture/Life Sciences.**

**College of Engineering. Northern Virginia Division. Assistant/Associate/Full Professor (two positions).**

### NON-INSTRUCTIONAL

**College of Agriculture/Life Sciences. Administration. Human Resources Director.**

**Child/Family Services Review. Project Manager. Center for Public Administration/Policy.**

**Biochemistry. Research Associate. College of Agriculture/Life Sciences.**

**College of Agriculture/Life Sciences. Administration. Director of Operations.**

**University Development. Regional Director of Major Gifts.**

**Animal/Poultry Sciences. Lecturer. Equine Extension Specialist.**

**Southeast District Cooperative Extension. Extension Agent, Horticulture. City of Chesapeake.**

**Northeast District Cooperative Extension. Extension Agent, Crop/Soil Sciences. King and Queen County.**



VIRGINIA POLYTECHNIC INSTITUTE  
AND STATE UNIVERSITY

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## Textbook introduces students to foundations of nanotechnology

Scientists and engineers around the world are taking control of matter at its smallest scale, individual atoms, to create new materials and devices that are making electronics smaller and promise a future with highly efficient flexible solar cells and molecular machinery to augment human systems.

This new field of science, called nanotechnology, has unfolded so quickly that the recent university courses in nanotechnology have had to depend upon compendiums of journal articles as their textbooks or books geared to majors in a specific field.

Now, however, three scientists have pulled together some 60 active researchers across many disciplines to write a broad-based textbook specifically for students. *Introduction to Nanoscale Science and Technology* has just been released by Kluwer Academic Publishers ([www.wkap.nl/prod/b/1-4020-7720-3](http://www.wkap.nl/prod/b/1-4020-7720-3)). The book was created by James R. Heflin Jr. of the Virginia Tech Department of Physics, Stephane Evoy of the University of Pennsylvania Department of Electrical and Systems Engineering, and Massimiliano Di Ventra of the University of California at San Diego Department of Physics.

Heflin and Evoy created and co-taught a

nanotechnology course for seniors and first-year graduate students at Virginia Tech in spring 2001. When Evoy went to the University of Pennsylvania that summer, he introduced the course there. Kluwer saw the course on the Virginia Tech web site and approached Heflin in September 2001 about writing a textbook.

"When I said, 'No way do I have the time to write a comprehensive textbook,' they suggested I could form a team and invite contributors, so that's what I did," Heflin said. He invited Di Ventra, who was at Virginia Tech at the time, and Evoy to be co-editors.

"We did an outline of topics, then looked for people to write the various chapters," Heflin said. "The authors range from high-profile senior people to young, fast-rising scientists. Most of the contributors are faculty members at universities such as Virginia Tech, the University of Pennsylvania, Penn State, MIT, UCLA, the University of Washington, University of Virginia, and Johns Hopkins. There are also contributors from the national labs, such as Oak Ridge, and from industry, such as Hitachi.

"We wanted a broad-based, interdisciplinary book, like the field itself, and we wanted it to be accessible to students in chemistry, physics, biology, and any engineering discipline," Heflin said. "I think

anyone with a science or engineering background could learn from this book. Stephane, Max, and I found we learned a great deal ourselves as we edited the submissions. We think the book will also be an excellent reference resource for academic, government, and industry researchers."

The textbook consists of 23 chapters in seven sections, beginning with the fundamentals, how to make and characterize nanoscale materials and an overview of the new classes of materials. Nanotechnology was enabled by the microscopy technologies developed in the 1980s that provide atomic-scale resolution and, later, nanoscale modification of surfaces.

The second section of the textbook looks at the new materials that have become the building blocks of nanotechnology—the hollow carbon molecules called fullerenes and nanotubes; nanocomposite materials designed to display the properties of their minute components; and collections of small numbers of atoms with altered electronic and optical properties, called quantum dots.

The remaining five sections describe applications. "A major goal of nanotechnology is to develop materials and devices that outperform existing technologies," the editors

explain in the text's introduction. Thus, there is a section on electronics. Nanotechnology means smaller and faster microelectronic devices with individual molecules built as electronic components and even single electron transistors.

A section on nanoscale magnetic systems looks at quantum computing and magnetic storage. A section on nanoelectromechanical systems examines nanomachined mechanical structures and single-chip systems that can sense, compute, and communicate. A section on photonic materials reviews inorganic semiconductor systems and looks ahead to organic, self-assembled materials with a range of applications, such as improved solar cells, modulators for communication systems, and flexible flat-panel displays.

The final section provides an overview of nanoscale biological systems, including those that aim to replicate the function of natural structures, membranes, and fluids. Structures for bone growth, implants that won't be rejected, and biomolecular motors to replicate natural mechanical activity are examples.

"We had the green light for the book in the summer of 2002, and we had all the chapters in hand by summer 2003," Heflin said. The book was released in early July 2004.

## Tech, Mexico to cooperate

By Susan B. Felker

President Charles W. Steger and Jaime Parada Avila, director general of the National Council for Science and Technology of the United Mexican States (CONACYT), have signed an agreement that provides for development of a multi-year cooperative-education program.

The letter of intent covers collaborative research, graduate student education, exchange of faculty members and researchers, post-doctoral training and faculty sabbaticals, and other collaborative initiatives. Vice Provost for Outreach and International Affairs John E. Dooley represented Virginia Tech at the ceremony, which was held at the *Auditorio Hilton de Guadalajara, Centro de Convenciones* on June 29.

CONACYT is the science-and-innovation arm of the Mexican government. It works in partnership with industry and academia to encourage innovative practices and the creation and dissemination of knowledge, making sure that new ideas are translated into economic and social benefits for all Mexicans.

## Murmann recognized for professional papers

By Sookhan Ho

Suzanne Murmann, professor of hospitality and tourism management in the Pamplin College of Business, has received Best Conference Paper awards for two papers she co-authored.

She won for "Development and Validation of the Hospitality Emotional Labor Scale," which she presented at the Second Asia-Pacific CHRIE Conference and the Sixth Biennial Conference on Tourism in Asia in Phuket, Thailand, in May; and "The Impact of 9-11 Terrorism on New York City's Restaurant Industry: Strategic Responses for Survival," presented at the International CHRIE Conference in Philadelphia, Pa., in July.



**NATURAL HABITAT STUDY** Teams of 4-H members from across the country recently participated in the National 4-H Wildlife Habitat Evaluation Contest held by the College of Natural Resources on campus and in locations such as the Jefferson National Forest. U.S. Forest Ranger Jesse Overcash, right, provides professional instruction as part of the contest. (J. McCormick)

## Wood center provides gavels for legislature

By Lynn Davis

The Virginia Tech College of Natural Resources Thomas M. Brooks Forest Products Center helped to provide the General Assembly with new gavels this past session.

Brian Bond, assistant professor of wood science and forest products, was contacted by the supervisor of maintenance and operation for the Virginia Department of General Services, Robert Gorkiewicz, about finding a source for drying wood blocks.

The wood blocks had been cut from the Capital Square tree, which had lived near the Virginia General Assembly until Hurricane Isabel brought it down. The tree was several hundred years old, and a decision was made to make commemorative gavels for the General Assembly from the tree's wood.

The wood blocks were delivered to the Thomas M. Brooks Forest Products Center in mid-December. After the small blocks were dried in the Brooks Lab dry kiln for two and a half months, gavels were "produced for each senator and delegate of the Commonwealth of Virginia," Gorkiewicz said.

The Brooks Forest Products Center is a 35,000-square-foot complex on the edge of the campus in the Corporate Research Center. The Brooks Center, which houses faculty and staff, members students in the department of Wood Science and Forest Products, contains research laboratories and equipment. The center contains labs for wood base composites manufacture and testing, a high-bay wood engineering lab with full-scale timber testing-equipment, the William A Sardo Pallet Laboratory, and the Center for Unit Load laboratory.

