

# SPECTRUM

Virginia  
Tech  
VIRGINIA POLYTECHNIC INSTITUTE AND STATE UNIVERSITY

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

VOLUME 26 NUMBER 9 FRIDAY, DECEMBER 19, 2003

## Congressmen announce \$1.6 million for Danville research institute

By Susan Felker

U.S. Senator George Allen and Fifth District Representative Virgil Goode on Wednesday jointly announced \$1,592,000 in funding for research at the Advanced and Applied Polymer Processing Institute (AAPPI), one of the research centers of the Institute for Advanced Learning and Research (IALR) in Danville. IALR will receive the funds via the Small Business Administration under the terms of the Consolidated Appropriations Act of 2004.

In making the announcement, Allen stressed the importance of finding new ways to stimulate the region's economy and praised IALR and its partners for their work in harnessing the power of advanced

polymer and other research for the benefit of Southside Virginia. Goode reflected on the power of collaborative efforts in effecting change, noting that federal funds can only strengthen the partnership.

"This federal allocation will accelerate our collaborative efforts to stimulate the growing polymer industry in Southside with new technologies, ultimately creating new jobs and prosperity," said Virginia Tech President Charles W. Steger in thanking Allen and Goode for their on-going support for the Institute for Advanced Learning and Research.

"This is an experiment in distributed research as a basis of economic development for the benefit of society, one in which everybody wins."

IALR Executive Director Tim Franklin said that polymer research scientist Ron Moffitt, director of AAPPI and associate professor of engineering at Virginia Tech "has been cultivating business and research contacts and now he will have funding for personnel and equipment to commence the research operation, given all the groundwork he has done. We are delighted that this AAPPI funding will enable us to launch one of the research centers in the very near future. It is exciting to inaugurate this effort targeting small and medium-sized businesses that will drive job growth in the Southside economy."

Tech faculty members are developing six research initiatives, one of them AAPPI. (See CONGRESSMEN on 2)

## College of Business launches executive MBA program

By Sookhan Ho

The Pamplin College of Business is launching an executive MBA program in the Washington, D.C. area in February.

The 18-month, accelerated program is designed for senior-level professionals and adapted to their work schedule, said Pamplin Dean Richard E. Sorensen. "It combines the resources of Virginia Tech's Blacksburg campus with the convenience of location in the Washington metropolitan area."

Classes, which begin February 6, will meet Friday afternoon and evening and continue all day Saturday every other weekend. The overall program focuses on ethical and entrepreneurial leadership in a global environment and strategic management of information technology. Students will participate in a 10-day, faculty-led program abroad designed to explore international business practices, the global political and regulatory environment, and the effect of cultural differences on business. All courses will be led by faculty members who are experienced in teaching and interacting with executives and relating course material to business situations.

The program will meet accreditation requirements and graduating students will receive the master of business administration. Prospective students must have at least eight years of professional management experience, a college degree, previous course work in quantitative analysis and a working knowledge of computer applications.

(See COLLEGE on 2)

## Brown announces plans to retire as CNR dean

By Clara B. Cox

Gregory N. Brown, dean of the College of Natural Resources at Virginia Tech since 1992, will retire from the university at the end of June 2004. Brown, the only dean the college has had since it was established, is also associate director of the Virginia Agricultural Experiment Station and a tenured professor.

"Greg Brown is a highly respected, talented and energetic individual who is leaving a lasting mark on the college and university. He is a man of integrity, a go-to person in time of need. While we wish him the best in his well-earned retirement, his leadership, dedication, and vision will be sorely missed," said Mark McNamee, provost and vice president for academic affairs, in announcing Brown's decision to retire.

Brown, who will be 66 in February, said he has enjoyed his time at Virginia Tech and serving in the role of dean. "We have outstanding faculty and staff members here, and I'll miss them and many parts of the job. But I feel that I am ready to retire and that it is time for someone younger with vision and energy to come in."

Brown delayed his retirement when he was tapped as interim dean of the College of Agriculture and Life Sciences Jan. 1, 2003, a position he held for seven months while still serving as dean of Natural Resources. He also remained to oversee completion of the 9,000-square-foot Cheatham Hall addition, which was dedicated in March. The enlarged Cheatham Hall houses administrative and faculty offices as well as classrooms. The agriculture/natural resources building under construction adjacent to Cheatham will provide a number of laboratories for the College of Natural Resources.

(See BROWN on 2)

## Commencement Activities December 19

Fall Commencement ceremonies for graduate and undergraduate students take place today in Cassell Coliseum. The University Ceremony for undergraduate students will begin at 11 a.m. The Graduate School Ceremony will follow at 3 p.m.

## Tech researcher receives \$1.8 million from NSF to study *Arabidopsis* genome

By Neysa Call

Virginia Bioinformatics Institute (VBI) researcher Vladimir Shulaev has been awarded a \$1.8-million grant from the National Science Foundation (NSF) for the collaborative "Arabidopsis 2010" research project.

Through such projects, the NSF hopes to determine the function of 25,000 genes in *Arabidopsis thaliana* by the year 2010. The research conducted at VBI will examine parts of the *Arabidopsis* genome that are involved in essential functions of the plant, leading to improvements in crop yield and nutritional value.

Shulaev, along with researchers from University of Michigan and the Salk Institute for Biological Studies, is working to understand the function of the SABATH family of methyltransferase genes in plants. These genes are believed to have profound effects on plant physiology and reproduction by mediating processes in plants controlled by signaling and hormone molecules.

Using gene expression profiling, metabolite profiling, and genetic manipulations, the team will learn more about

plant physiology and then translate that information to other crops. "The 'Arabidopsis 2010' project will provide essential information about discovering an organism's chemical repertoire," Shulaev said. "Collaborating with both the University of Michigan and the Salk Institute is an exciting research opportunity for VBI."

The project will also support a number of minority high-school, undergraduate and graduate students. This interdisciplinary project will provide these students with a unique research experience. In addition, methods and materials developed in this investigation will be used to train undergraduate students in formal lab courses.

VBI serves as a flagship bioinformatics research institute wedding cutting-edge biological research with state-of-the-art computerscience. By integrating experimental and computational laboratories, VBI provides a unique research platform to all stakeholders on a cost-recovery basis. More information about VBI is available on line at [www.vbi.vt.edu](http://www.vbi.vt.edu). This project is one of the 42 currently under way at the institute.

## Architecture, interior design programs move up in rankings

By Sarah Newbill

For the fifth year, *DesignIntelligence* and the *Almanac of Architecture and Design* asked the leaders of the country's best design firms to rank which colleges and universities have the most outstanding programs. For 2004, the Virginia Tech architecture undergraduate program ranked fourth in the nation, up from fourteenth in 2003, and the interior-design program ranked eighth, up from tenth place, in 2003. The annual rankings are compiled in conjunction with Counsel House Research.

The surveys were targeted to individuals in each firm who have direct experience with the hiring and performance of graduates, asking them to choose the institutions that produced graduates most prepared for real-world practice.

The survey also examined how architecture and design firms rank the academic programs of the colleges and universities in their own regions, dividing the country into four regions. In the southern

(See ARCHITECTURE on 4)

# ACTIVITIES

## EVENTS

### Friday, 19

Fall Commencement, 11 a.m., Cassell Coliseum.  
Graduate Commencement, 3 p.m., Cassell Coliseum.  
International Graduation Reception, 10 a.m., Cranwell Center.

### Saturday, 20

Fall 2003 Grade Sheets Due.  
Music Event, 8 p.m., Blacksburg Presbyterian Church: Virginia Tech Symphonic Choir and Blacksburg Master Chorale Joint Concert.

### Sunday, 21

Fall 2003 Final Grades Available: Web View.

### Wednesday, 24

Half-day Christmas Holiday for Faculty and Staff Members.

### Thursday, 25

Christmas Holiday for Faculty and Staff Members.

### Friday, 26

Christmas Holiday for Faculty and Staff Members.

### Wednesday, 31

Pay Date for Faculty and Staff Members.

### Thursday, 1

New Years Holiday for Faculty and Staff Members.

### Friday, 2

New Years Holiday for Faculty and Staff Members.

### Thursday, 15

Staff Senate, noon, 1810 Litton Reaves.

### Friday, 16

Pay Date for Faculty and Staff Members.  
Lee-Jackson Day Holiday for Staff Members.

### Sunday, 18

Spring Semester Orientation.

### Monday, 19

Martin Luther King Day Holiday for Staff Members.  
Classes Begin.  
Diversity Summit.  
Black History Celebration Begins (Through 2-28).

### Tuesday, 20

Faculty Senate, 7 to 9 p.m., 32 Pamplin.  
Art Exhibit (through February 22), noon-5 p.m., Tuesday-Friday; noon-4 p.m., Saturday, Armory Art Gallery.

### Friday, 23

Last Day to Add.

## BULLETINS

### Information and Assistance Desk closed

The Torgersen Bridge will be closed from December 21 through January 4, reopening on January 5. As a result, the library Information and Assistance Desk located in library side of Torgersen Hall, will also be closed during that period.

Reference and information assistance will be available at the Reference Desk in the lobby of Newman Library; library hours are available at <http://www.lib.vt.edu/services/circ-reserve/Newman.Current.html>. Additionally, Electronic Consulting Services (ECS) in the Torgersen Tower will be available by appointment; patrons needing access to this collection can make arrangements via the Reference Desk in the lobby of Newman or by contacting Ed Brooks at 1-9225 or [gisdata@vt.edu](mailto:gisdata@vt.edu).

### Offices closed during holidays

The Office of the Vice Provost for Research and the Office of Sponsored Programs will be closed for business on December 29, 30, and 31. Combined with the holiday

closings, the office will be closed at noon, December 24 and will re-open at 8 a.m. on January 5. Persons with proposals due the weeks of December 29 or the January 5 should contact their pre-award administrator as soon as possible.

### English-language refresher courses offered

The English Language Institute will offer two intensive English-language-skills refresher classes during the semester break, from January 5 to January 16. Designed for graduate students, post-doctoral fellows, visiting scholars, and members of the international research community, this two-week program will be held at the English Language Institute, 840 University City Blvd., Suite 2, in Blacksburg.

The "Advanced Writing Laboratory," which will be held from 10 a.m. to noon, will assist students with their professional writing skills. The 1:30 to 3:30 p.m. class, "Pronunciation and Oral Presentation," will help participants increase their confidence in both their formal and informal speaking ability. Students may elect to take either or both courses. Fees are \$150

per class including textbooks and students must register by January 2. Classes with fewer than five students will be canceled. For more information, contact Judy Snoke at [eslsnoke@vt.edu](mailto:eslsnoke@vt.edu) or 1-6963.

### Research database available

Members of the university community interested in research funding and receiving personalized funding alerts now have access to Community of Science (COS) Inc.

Community of Science, which operates the largest and most-comprehensive research database on the web, is available to faculty members at no charge. Faculty members who enter their information in the Virginia Tech Expertise Database (VTED) at [www.research.vt.edu/vted](http://www.research.vt.edu/vted) can conduct targeted funding searches using the COS database.

For more information, contact Larry Quisenberry at 1-5452 or by e-mail at [lquisenb@vt.edu](mailto:lquisenb@vt.edu). Also learn more at [www.cos.com/](http://www.cos.com/).

## Spectrum Publication Information

**Spectrum will resume publication on January 23. The publication schedule for Spring Semester will be every other Friday thereafter, with the exception of a single issue in May. Publication dates are February 6 and 20; March 5 and 19; April 2, 16 and 30; May 14, and June 4 and 18.**

**The deadline for items to be published is noon on the Friday preceding the publication date. For more information, e-mail [Spectrum@vt.edu](mailto:Spectrum@vt.edu).**

## COLLEGE

*Continued from 1*

The university currently offers a full-time MBA program in Blacksburg and a part-time program at its Northern Virginia Center in Falls Church and five other sites across the state. The executive MBA program, Sorensen said, will serve a new constituency of managers "with significant experience who seek a shorter, more intense MBA program, small classes with peers from a range of industries, and a high level of facilities." For more information on the executive MBA program, visit web site <http://www.emba.cob.vt.edu/>

## CONGRESSMEN

*Continued from 1*

to assist with and stimulate economic expansion. Building upon an existing cluster of polymer industries in Southside, AAPPI will develop new polymer-processing technologies to license for local commercial development. The goal is to stimulate the economic revitalization of Southside Virginia through the development of entrepreneurial, new polymer-related businesses; to strengthen established polymer-based corporations in the region to create jobs; and to offer advanced educational opportunities within the industry. The university has already announced that it would relocate polymer research equipment and intellectual property at AAPPI.

Other research efforts will focus on robotics, motor sports, biodefense, horticulture and forestry, and bioinformatics.

Danville Community College President Carlyle Ramsey stressed the college's on-going commitment to support Virginia Tech's Southside polymer research through rapid prototyping and curriculum development at IALR.

IALR's mission is to develop and attract technology and talent critical to Southside Virginia's economic transformation through advanced learning, strategic research and technology transfer, IALR Conference Center activities, IALR outreach programs, and technology infrastructure development. The institute will move into its new quarters at 150 Slayton Avenue, Danville, in January 2004

## BROWN

*Continued from 1*

The college, created by legislative mandate, evolved from a School of Forestry and Wildlife Resources in the College of Agriculture and Life Sciences. It opened in 1993 as the College of Forestry and Wildlife Resources, and under Brown's guidance, its name was changed in 1999 to the College of Natural Resources. "In my estimation, changing the name of our college opened a lot of doors to us relative to contacts with funding agencies and prospective students," he said.

With Brown at its helm, the college has changed dramatically during its 10-year history. Its physical space has been increased by 15,000 square feet and will grow by another 22,000 square feet with the college's share of the new agriculture-and-natural-resources building now under construction. The student body has increased, and a high percentage of the majors find jobs in their fields. The faculty has grown from 55 to nearly 70, and the department of geography has been moved into the college.

Extramural research grants and contracts have more than doubled, from \$4 million during the early days of the college to more than \$8 million projected for this year. Private fundraising has resulted in a substantial endowment, and the college now has seven named professors. International programs, including student exchanges, study-abroad

programs, and research and development programs, have grown substantially.

The college's program offerings have also expanded. It now offers courses at Virginia Tech's Northern Virginia Center and represents the only natural-resources higher-education presence in Northern Virginia. The State Council of Higher Education for Virginia recently approved the college's proposed master-of-natural-resources program. An option in urban forestry has been implemented, and a water-resources-management option and an environmental-education option are being designed. The college has developed a "3+2" program, which culminates in a bachelor's degree from another institution and a professional master's degree from Virginia Tech, in concert with two other institutions: Delaware State University, a historically black college (HBC), and James Madison University. Work is under way with other HBC's to expand the program.

When the college began, it had no women and no members of ethnic minority groups on its faculty. During Brown's tenure, seven women and three people of color were recruited to faculty positions. "This leaves a long way to go, but it is a start," he said.

Sharron Quisenberry, dean of the College of Agriculture and Life Sciences, will chair the search committee for Brown's replacement.

## CAMPUS UPDATE

# University administrators recognize Merola for restructuring efforts

By Clara B. Cox

Joseph Merola, professor of chemistry and former senior administrative fellow in charge of restructuring at Virginia Tech, has been recognized by President Charles Steger and Provost Mark McNamee for his work on extensive restructuring at the university.

"Joe has left his mark on Virginia Tech both as interim dean of the Graduate School and, most recently, as the senior administrative fellow in charge of restructuring," Steger told members of the university community who

gathered recently to honor Merola.

McNamee also had words of praise for Merola. "What better leader could we have selected to coordinate this effort than Joe Merola? As his five teaching awards attest, Joe knows how to get his points across and how to do it in a way that keeps people informed. Joe knows the university and has impressed many people with his leadership skills," he said.

Merola has served on many department, college and university committees and was associate dean for research and outreach in the

College of Arts and Sciences when he was tapped in January 2001 to serve as interim dean of the Graduate School. When that position was filled on a permanent basis, McNamee asked him to lead the university's restructuring process. "We needed a point person, someone who knew Virginia Tech and could provide wise guidance as the campus community started examining—and then making—major changes in the academic structure of the university," McNamee said.

During the restructuring process, McNamee added, "Joe worked closely with the faculty, administrators and staff to make the changes as effective as possible."

Steger and McNamee presented Merola with a certificate of appreciation on behalf of the university.

Merola has been at Virginia Tech since 1987, having come here from Exxon's Corporate Research and Engineering Co., where he was a senior research chemist.

## Sarin appointed to endowed professorship

By Liz Crumbley

Subhash Sarin has been appointed the Paul T. Norton professor of the Grado Department of Industrial and Systems Engineering (ISE). The endowed professorship was established in 1988 in honor of Paul Norton, who in 1920 became the founding department head of ISE's forerunner, the Department of Commercial Engineering.

Sarin, who joined the Virginia Tech faculty in 1983, is the founding director of ISE's Electronics Manufacturing Research Laboratory. His expertise is focused in the areas of operations research and the design and scheduling of manufacturing systems. He has been principal investigator on 40 funded projects at the university.

Sarin's work also was critical in obtaining \$4.3 million in funding from the Commonwealth Technology Research Fund to establish Virginia Tech's Center for High Performance Manufacturing, for which he serves as an associate director.

Sarin received the College of Engineering Sporn Award for excellence in undergraduate instruction in 1997 and the Engineering Dean's Award for Excellence in Teaching in 1999.

(See SARIN on 4)

## Video-network research bolstering security wins NSF grant

By Liz Crumbley

Wireless-video-sensor networks have the potential to significantly enhance national-security and emergency-response efforts, and the National Science Foundation (NSF) is supporting research at Virginia Tech aimed at extending the lifetime and strengthening the performance of these networks.

Assistant Professor Thomas Hou and Professor Scott Midkiff of the university's electrical and computer engineering department have received a \$225,000 Information Technology Research (ITR) grant to study factors that affect network lifetime.

Composed of interconnected, miniature video cameras and low-power wireless transceivers that process, send and receive data, wireless-video-sensor networks can provide real-time visual data in situations where accurate surveillance is critical, according to Hou, the principal investigator on the ITR project. These networks can help reduce the impact of security breaches on the nation's infrastructure and improve the government's ability to prevent, detect, respond to and recover

from both man-made and natural catastrophes.

In March 2003 Hou received a Young Investigator Award grant from the Office of Naval Research (ONR) in support of his work to enhance the technology in a number of ways. Hou and Midkiff will use the NSF ITR grant to focus on the issues of power use and network topology.

Receiving, processing and transmitting video information places a high demand on the batteries that supply power to a wireless video network. This poses a problem, particularly when networks are operated in remote locations. "A major challenge of our research will be maximizing the lifetime of networks using components with limited battery power," Hou said.

Hou and Midkiff believe that improving network topology—the arrangement by which network components are connected—is the key factor in maximizing power efficiency. "An analysis of power dissipation at video sensor nodes suggests that communication consumes significantly more energy than any other activity," Hou said. "By adjusting the topology

of the network, we can optimize the transmitter power of video-sensor nodes and extend network lifetime."

As part of the ITR project, Hou and Midkiff also plan to develop a software toolkit that will implement the topology control techniques they discover, and to incorporate their findings into an advanced wireless-and-sensor-networks course at Tech.

Hou, who joined the Tech faculty in 2002, is a co-recipient of the 2002 Institute of Electrical and Electronics Engineers (IEEE) International Conference on Network Protocols Best Paper Award and the 2001 IEEE Transactions on Circuits and Systems for Video Technology Best Paper Award.

Since coming to the university in 1986, Midkiff has become a leader in a number of wireless-and-computer-technology initiatives at the university. He is the director of the NSF-sponsored Integrated Research and Education in Advanced Networking program and an associate of both the Center for Wireless Telecommunications and the Mobile & Portable Radio Research Group.

## EMPLOYMENT

**(Editor's note: Following is information on a new applicant-management system which is now in operation at the university. As a result of the new system being implemented, classified-employee listings will no longer be published in *Spectrum*.)**

### Notice to Applicants for Classified Positions

For the past several years, Virginia Tech has accepted applications for vacant positions through our web site. This service has become increasingly popular because it allows candidates to store a job application and easily apply for several positions over time. In addition, applicants find it more convenient to file applications electronically.

The university currently takes over 20,000 applications per year for classified positions and over 75 percent of all applicants submit their applications over the web site. In addition, approximately 15 percent of applicants use a computer to type an application. With the rapid increase in the number of applications accepted and the need to improve efficiencies in the hiring process for the university, it has become necessary to implement a new applicant-management system. This system will work in a very similar manner to the current system; however, we regret that we are unable to convert applications from the old to the new system. The new system became operational November 15, and requires that all applications for all classified positions be submitted electronically through the new web site. All

applicants, including those that have previously filed an application with us through our existing web site, will be asked to create a new user account and enter a new application. As with our current system, applicants can apply for multiple positions and save an application for future use. In addition, applicants can attach documents such as formatted resumes and cover letters to application as well as check the status of openings over the web site.

We believe that our new system will improve the application process for those who want to work at Virginia Tech. We would like to suggest that applicants log in to the old existing system at <https://www.ps.vt.edu/onlineapplication/> to print a copy of the most recent application on file. However, this access will only allow applicants to read and print applications. To search for current information, go to [www.jobs.vt.edu](http://www.jobs.vt.edu).

## FACULTY POSITIONS

For information on all faculty positions go to [www.jobs.vt.edu](http://www.jobs.vt.edu).

**INSTRUCTIONAL**  
Agriculture and Extension Education. Assistant Professor.

Engineering Fundamentals. Open Rank. Communications/Writing (three positions).

Engineering Fundamentals. Assistant/Associate Professor.

Materials Science and Engineering. Assistant/Full Professor (four positions).

Music Department. Music Instrumental Conductor.

Music Department. Assistant Professor of Music Keyboard/Vocal Music. Art/Art History. Digital Artist.

Art/Art History. Foundations Specialist/Coordinator.

**NON-INSTRUCTIONAL**  
Fisheries and Wildlife Sciences. Postdoctoral Associate.

Virginia Bioinformatics Institute. Plant Molecular Biologist 2 positions).

Virginia Bioinformatics Institute. Fungal Molecular Biologist.

Virginia Bioinformatics Institute. Head Bioinformatician/Scientific Curator.

Virginia Bioinformatics Institute. Fungal Molecular Biologist/Medical Mycologist.

Virginia Bioinformatics Institute. Microbiologist in Plant-Microbe Interactions.

Center for Geospatial Information Technology. Senior Project Associate (Alexandria, VA Office).

University Development. Director of Development for Veterinary Medicine, Virginia-Maryland Regional College of Veterinary Medicine.

University Development. Director of Special Events, Advancement Services.

Virginia Bioinformatics Institute. Proposal Coordinator.

Department of Fisheries and Wildlife. Research Associate.

Virginia Tech

VIRGINIA POLYTECHNIC INSTITUTE  
AND STATE UNIVERSITY

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## IN OTHER NEWS

### Boschi elected president of international air-quality society

By Sarah Newbill

Nadia Boschi, assistant professor of building construction in the College of Architecture and Urban Studies, has been elected to a three-year term as president of the International Society of Indoor Air Quality and Climate (ISIAQ). She took office at the 7th International "Healthy Buildings" conference held in Singapore in December. She is the youngest person, and first architect, to hold this position.

Boschi specializes in historic preservation, architectural technologies and indoor environment, and teaches courses on construction and historic restoration and preservation. Her research has been supported by a number of private and public entities such as NATO, the European Union, the U.S. Environmental Protection Agency, and the Italian government. Her current research includes the integration of indoor-air and energy-efficiency principles into the building-delivery process. She holds a Ph.D. in architectural technology and environment from Milan Polytechnic and has been a practicing architect in Italy since 1988.

ISIAQ is committed to the development and advocacy of integrated and cross-disciplinary research and professional activity in the field of indoor air.

### Embedded Systems Design Group inaugurated

By Karen Gilbert

The formation of new Embedded Systems Design Group at Virginia Tech was inaugurated October 29 at a one-day colloquium featuring expert guest speakers on embedded systems from around the world.

The Virginia Tech Embedded Systems Group was formed to foster collaboration between five different labs within the Department of Electrical and Computer Engineering. The purpose of the group is to enhance the productivity of designers of embedded systems.

The main areas of research within the embedded systems group are VLSI design, network embedded systems, real-time systems and fault-tolerant architectures for future nanotechnology-based hardware design. Faculty members from Virginia Tech involved with the new group include Dong Ha, Michael Hsiao, Sandeep Shukla, Binoy Ravindran and Amitabh Mishra. More information is available at <http://www.ecpe.vt.edu/news/ar03/embedded.html>.

### SARIN

Continued from 3

He also has received state and national honors as an educator. In 1998 he was selected by the Virginia Engineering Award Committee to receive the Pletta Award as Virginia's engineering educator of the year. In 2000, he received the Albert Holzman Distinguished Educator Award, the top national educational honor of the Institute of Industrial Engineers (IIE).

Sarin's professional contributions to the field of industrial engineering were recognized by his election as a fellow of the IIE.

Before coming to Virginia Tech, Sarin was on the faculty of Ohio State University.

### Torgersen to leave admissions post

By Clara B. Cox

Karen E. Torgersen, director of undergraduate admissions since 1997, has submitted her resignation from the university effective December 31 to become associate executive director of U21pedagogica Limited (Pedagogica), a new international educational enterprise in Charlottesville.

"Karen brought a level of energy and expertise to Undergraduate Admissions that only an alumnae of the university could bring. The growth in numbers of undergraduate applications and the academic quality and diversity of those applicants is a direct result of marketing and program efforts Karen and her staff have initiated. Karen's presence in this very important university leadership position will be missed," said David R. Ford, vice provost for academic affairs.

Torgersen, a 19-year Tech employee, joined Undergraduate Admissions in 1986 after spending two years as assistant to the director of budget and financial planning at the university. She moved through the ranks in admissions and was named interim director in 1996 and director the following year.

"Though I am very sad to be leaving Virginia Tech and I will always be a Hokie, I am excited at the prospect of being involved with this new educational initiative," Torgersen said. "It is the wonderful people I have had the opportunity to work with that make this parting so difficult."

Under her leadership, application numbers and the quality of the freshman class have steadily increased. She worked with CollegeNet Inc. to streamline the on-line application process, making Virginia Tech in 1995 the first university to offer an all-on-line application-and-payment system. Currently, more than 80 percent of the university's undergraduate applicants apply on line.

Torgersen earned her bachelor's and MBA degrees at Virginia Tech. During her employment with the university, she made presentations throughout the country, wrote for professional journals, and served on committees for a number of professional organizations.

The university will initiate a national search for her replacement.

### NSF grant funds study of primitive microorganisms

By Amy Mortensen,  
University Relations intern

Primitive microorganisms provide important clues as to how all creatures employ a basic regulatory mechanism to conduct the business of life. Peter Kennelly, professor of biochemistry, is studying a primitive organism discovered in acidic hot springs at Yellowstone National Park to find clues about that mechanism in higher organisms.

A \$400,000 grant from the National Science Foundation is allowing Kennelly to continue his investigations into the process of protein phosphorylation.

That is a process by which nature controls the structure, functions and interactions of the proteins that carry out the chemistry of life. In higher organisms, thousands of phosphorylated proteins are linked together into sophisticated networks. These networks are responsible for coordinating the multiple chemical events that take place inside each cell and modifying these processes in response to changes in the environment.

While the great size of these networks provides them with a high capacity to process a broad spectrum of environmental factors and select appropriate responses, it also renders them difficult to study, Kennelly said. Microorganisms carry out many of the same basic processes as higher organisms, but they do so with a much smaller set of molecular machinery.

"If you consider living cells to be a molecular puzzle, a microorganism puzzle contains from 10 to as many as 100 times fewer pieces than the human puzzle," Kennelly said. "Solving the first puzzle will be much faster than the second. More importantly, the parallels between microbial and human puzzles mean that completing the first puzzle will make solving the second one easier and faster."

The organism the Kennelly lab is studying is called *Sulfolobus solfataricus*, an extremophile from the "third domain of life" known as the *Archaea*. Extremophiles live in conditions far more stressful than other life forms can endure.

"The process of protein phosphorylation is so basic to controlling life's chemistry, that it occurs in organisms of all types, from even the most extreme corners of the biosphere," Kennelly said.

Specifically, Kennelly and his students will identify the proteins that are controlled by phosphorylation in *Sulfolobus solfataricus*, the protein kinases that are responsible for phosphorylating them, and the protein phosphatases that remove the phosphate groups. Ultimately, he hopes to not only identify all the pieces in the phosphorylation network, but to also dissect the functional relationships between them.



Members of the 2003 CVC Steering Committee are, front row from left: Lisa Rudd, Steve Mouras, Terri Tishman, Jody Smiley, and Sam Camden; back row, from left: Paula Vaught, Sandra Muse, Jeb Stewart, Edward Lener, Cathy Lally, Sabrina Allen, Rick Hiller, and Danielle Donaldson. Not pictured: Pam Linkous, Debbie Price, Sarah Newbill, Sharon Scott, Thomas Olsen, George Crofts, John Beach, Linda Woodard, Alicia Cohen, Suzanne Ducker, and Jack Ridinger. (J. McCormick)

### Combined Virginia Campaign tops \$193,000

Virginia Tech employees raised a total of \$193,079.61 during the 2003 Combined Virginia Campaign (CVC). Tech is the largest single contributor to charitable causes in Southwest Virginia, and is one of the top five state agencies in total contributions.

The campaign is planned and implemented annually for all university employees by the CVC Steering Committee for Virginia Tech. The committee is an all-volunteer group of faculty and staff members organized in accordance with the major administrative areas of the university.

### ARCHITECTURE

Continued from 1

region, comprised of 14 states from Virginia to Texas, Virginia Tech's bachelor of architecture program ranked second (with North Carolina State University and University of Tennessee Knoxville) and the master of architecture program ranked ninth in the region.

The report also listed Virginia Tech as twelfth for Editor's Choice value ranking among design schools with tuition under \$19,999, also taking into consideration other factors such as overall reputation, technology, studios, library resources, and learning environment.

More information about the 2004 *Design Intelligence* report can be found at <http://www.di.net/>.