

SPECTRUM

Virginia
Tech

VIRGINIA POLYTECHNIC INSTITUTE AND STATE UNIVERSITY

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Mayor Roger Hedgepett has proclaimed April 6 Graduate Student Appreciation Week. Go to www.gradsvtedu for a photo and more information.

Faculty members part of multi-million-dollar study

By Sally Harris

Understanding the genes and proteins that underlie the behavior of cells is similar to trying to figure out how a VCR works without an instruction manual, said John Tyson, university distinguished professor of biology.

Faculty members in the departments of Biology and Computer Science in the College of Arts and Sciences are teaming together to take part in a new \$50-million multi-disciplinary, multi-university program called BioSPICE: Simulation Program for Intracellular Evaluation. Sponsored by the Defense Advanced Research Projects Agency (DARPA), the program is intended to create computer software for modeling the genes and proteins that underlie cellular behavior. The eventual goal is to understand the molecular mechanisms underlying such processes as bacterial contamination, jet lag, and wound healing.

DARPA is supporting approximately 15 groups around the country working toward that goal in four basic areas: model kernel, experimental evaluation, software development, and software integration. The Virginia Tech Consortium has been awarded \$1.65 million for three years to study cell-cycle regulation by mathematical modeling, experimental analysis, and computer simulation.

The modeling group is trying to create accurate, reliable mathematical representations of the molecular mechanisms controlling DNA replication and cell division. The team includes Tyson and Kathy Chen at Virginia Tech, Bela Novak at the Budapest University of Technology and Economics, and several students. The experimental group, which is testing and refining the models in the laboratory, is directed by Virginia Tech's Jill Sible, a biologist who studies frog eggs, and by yeast geneticist Fred Cross (Rockefeller University) and biochemist Michael Mendenhall (University of Kentucky

Medical School). The software-development group consists of Virginia Tech computer scientists, led by Layne Watson, Cliff Shaffer, and Naren Ramakrishnan, who are creating software tools to assist modelers and experimentalists.

"To understand how cells respond to their environments, we must understand the molecular machinery that lies inside," Tyson said. "Geneticists can open the cell and identify the relevant genes and proteins and how they connect to each other. From this information, we have to reconstruct the 'wiring diagram' of the cell's control circuits—something like the wiring diagram for a VCR, only much more complicated. The challenge is to figure out how the cell works, so we can control it to our advantage or fix it when it's broken. The problem is, cells don't come with instruction manuals, or even with certified wiring diagrams. We have to guess the wiring diagram from the clues

(See FACULTY on 4)

Business professor receives Fulbright

By Sookhan Ho

Virginia Tech business-information-technology Professor Philip Huang has received a Fulbright fellowship to teach and do research in Portugal next year. Huang will be based at the *Universidade de Coimbra*, the second oldest university in Europe.

Huang, who will leave in May for a three-month stay, will teach an MBA course and do research to assess the impact of information technology on supply-chain management in Portuguese companies. A member of the European Union, Portugal has made significant strides in economic development, Huang said. With new and modern infrastructure and a skilled and inexpensive labor force, it has attracted considerable foreign direct investment from such multinationals as Ford, GM, Siemens, Texas Instruments, Lear, and Samsung.

"To continue its impressive economic growth, Portugal will have to continue upgrading—not only its infrastructure, but also its management systems," said Huang, who specializes in international operations management. He studied factory automation in Japan on a previous Fulbright fellowship and has taught and done research in other countries in Asia and in Europe during his more

(See BUSINESS on 4)

Kingston named Virginia Outstanding Scientist

By Sally Harris

Years of research by Virginia Tech chemist David G.I. Kingston has resulted in knowledge that helped improve the efficiency of a potent anti-cancer drug and also helped in saving vital tropical forests in South America. For this and other work, the Science Museum of Virginia and the Office of the Governor are naming Kingston a Virginia Outstanding Scientist of 2002.

Kingston becomes the sixth Virginia Tech professor to receive the designation Scientist of the Year since 1993, the fifth member of the College of Arts and Sciences, and the fourth member of the Department of Chemistry.

Kingston was the first chemist in the United States to study the chemical qualities of paclitaxel, or Taxol™, now the world's best-selling anticancer drug. Taxol is used to treat breast and ovarian cancer, as it inhibits cell division.

The original source of Taxol was the

100-year-old Pacific yew tree, and six trees were sacrificed to treat each patient. Kingston's work paved the way for developing a semi-synthetic process to create Taxol, according to the Science Museum of Virginia, and "laid the foundation of Taxol chemistry and provided much of the basic research leading to development of improved versions of Taxol."

"Researchers at the National Cancer Institute call Kingston the world's leading expert on the chemistry of Taxol," according to the Science Museum of Virginia's press release. He began working on Taxol when few people were interested in it. "His investigations have created a foundation for what is now an international scientific effort."

One of the goals of Taxol research was to be able to give higher doses of the drug targeted to the tumor so as to reduce toxic effects. Kingston has received patents for modifying certain positions of molecules that improved the activity of Taxol. For example, he found that modifying one of the benzoyl groups of

Taxol in a specific way significantly improved the drug's potency. Two different pharmaceutical companies have incorporated this modification, along with other modifications of their own, in developing new compounds that are in clinical trial. "Our discovery is a key part of these new compounds," Kingston said.

Much of Kingston's work has been done in Suriname, a country rich in biodiversity. While doing chemical work with Taxol, Kingston also has been studying other natural products for their usefulness in the medical field.

Also, in doing research in Suriname, Kingston had studied traditional herbal remedies, which helped preserve that knowledge and also provided an argument that cutting the forest would deplete the country of those herbal cures.

Kingston came to Virginia Tech in 1971 as an associate professor of chemistry. He was

(See KINGSTON on 2)

Craig, Seiler named outstanding faculty members

By Sally Harris and Lynn Davis

Two Virginia Tech faculty members have received a 2002 Outstanding Faculty Award from the State Council of Higher Education for Virginia (SCHEV).

James R. Craig, professor of geological sciences in the College of Arts and Sciences, and John Seiler, professor of forestry in the College of Natural Resources, were two of 11 faculty members across the state who SCHEV recognized with the award this year. Through the award, according to SCHEV Executive Director Phyllis Palmiero, "the commonwealth proudly recognizes the finest among Virginia's college faculty members for their demonstrated excellence in teaching, research, and public service."

In addition to attaining an international reputation as a scientist and a scholar, Craig has taught more than 17,000 undergraduate students in his 34 years of university teaching and has written three widely used textbooks.

Craig served as chair of the Department of Geological Sciences from 1990 to 1994. He is the author or co-author of more than 150 scientific papers on ore deposits, gold mineralization, sulfide mineral chemistry, metal corrosion, and environmental and resource issues.

(See SCHEV on 3)

Crawford's work earns NSF CAREER award

By Sally Harris

Daniel Crawford, an assistant professor of chemistry, has received a Faculty Early Career Development Program (CAREER) Award from the National Science Foundation (NSF) for his research in theoretical and computational quantum chemistry.

CAREER awards are presented annually to a select roster of young faculty members nation-wide who have the potential to make significant contributions to engineering and scientific research and instruction.

"We apply models within quantum mechanics to compute properties of individual molecules to compare with or predict experimental data," said Crawford, whose award is for \$435,000 over five years. Some molecular properties of interest include structure, thermodynamic data, and spectra.

"We can also compute properties that

cannot be measured experimentally," Crawford said. "There are some molecules you don't want to create experimentally—particularly ones that are highly toxic or explosive, for example."

Crawford's proposed research is the study of large chiral molecules, such as amino acids, which have an inherent left- or right-handedness. The properties of each "hand" can be quite different. One example is the drug thalidomide, which was banned by the Food and Drug Administration in the 1960s. One hand of thalidomide has a sedative effect and the other damages fetal tissue.

A major area of chemical research today, Crawford said, involves the analysis of natural products—for example, compounds isolated from marine species, which often have biological importance. To synthesize such molecules in the lab, organic chemists must

know which hand they have isolated. "They often have to test the end product using methods such as circular dichroism (CD) spectroscopy, which shows a different spectrum for left- and right-handedness," Crawford said. "Then they can compare the result with the original natural product to see if they have the right configuration. So only once they have taken all that time to generate a synthetic version can they see if it's the correct hand."

This is where Crawford's proposed research comes in. "When we prepare a calculation, we have to tell the computer what the structure is, including its absolute configuration," he said. "The proposal is to compute rapidly the CD spectrum of all possible hands and compare those results to the natural-product spectrum. If the theoretical spectra are accurate enough, we should be able to identify

(See CRAWFORD on 4)

ACTIVITIES

EVENTS

Friday, 29

Pay Date for Faculty and Staff Members.

Leadership Development Workshop, 9 a.m. to 12:30 p.m., DBHCC rooms D, E.

CommonHealth Program, 12:15 to 12:30 p.m., Southgate Personnel classroom.

Monday, 1

Graduate-Student Appreciation Week Begins.

University Council. CANCELLED

Hort Garden Class, 6 to 8:30 p.m., Greenhouse classroom: Woody Ornamentals.

Tuesday, 2

Leadership Development Workshop, 8:30 a.m. to 4:30 p.m., German Club Gordon Ballroom.

Family, Work/Life Resources Program, noon to 1 p.m., DBHCC conference room G.

Wednesday, 3

Leadership Development Workshop, 8:30 a.m. to noon,

German Club Gordon Ballroom.

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

SOTA Event, 8 p.m., Squires Recital Salon: Music.

Thursday, 4

National Teleconference, 1 to 4 p.m., DBHCC conference rooms D, E: "The First College Year: Assessing What We Value."

Friday, 5

Gerontology Forum, 10:10 a.m., Fralin auditorium: "Genetics and the 150-Year Life Span: How Soon?" by Steve Austad, University of Idaho.

SEMINARS

Friday, 29

Highlands in Chemistry, 11:15 a.m., 3 Davidson: Robert P. Hanzlik, University of Kansas.

Geological Sciences, 4 p.m., 4069 Derring: Timothy Demko, Exxon-Mobil.

STS, 4 p.m., 132 Lane: Wenda Bauchspies, Penn State.

Tuesday, 2

ECE, 3:30 to 4:20 p.m., 300 Whittemore: Charles Bostian.

Wednesday, 3

ESM, 4 p.m., 136 Norris: Chris Pettit, Air Force Research Laboratory.

Thursday, 4

CSES, 4 p.m., 246 Smyth: Carl Zipper.

Statistics, 3:45 p.m., 409 Hutcheson: Megan Waterman.

HDS, 4 p.m., Fralin auditorium: Karen Bogenschneider, University of Wisconsin.

MCBB, 12:20 to 1:10 p.m., Fralin auditorium: Andrej Sali, Rockefeller University.

ESM, 4 p.m., 136 Norris: David Steigmann, University of California, Berkeley.

Friday, 5

Highlands in Chemistry, 11:15 a.m., 3 Davidson: James D. Martin, N.C. State.

STS, 3 p.m., 225 Major Williams: Steven Hales, Bloomsburg University.

BULLETINS

Electronic voting process encouraged

The Faculty Senate and the faculty associations of Arts and Sciences, Agriculture and Life Sciences, Natural Resources and Architecture and Urban Studies are conducting electronic elections for the Faculty Senate and college offices between now and April 5. Ballots will be sent by e-mail. The goal is to get all faculty and staff members in the colleges and the field to vote electronically next year to save money. A second goal is to have all units vote over the same week period and increase participation in governance.

University Mail Services now on line

University Mail Services and Residential Mail Services

are now on line at <http://www.mailservices.vt.edu>. Visit the web site for information about services, postal codes, billing and policies for students and departments. Questions and comments may be directed to vtmswebmaster@vt.edu.

Mathematics program to be presented

"The Mathematics of Entertainment, the Entertainment of Mathematics" will be presented Wednesday, April 17, at 7 p.m. by mathematics Professor Ezra (Bud) Brown in the Donaldson Brown Hotel and Conference Center auditorium.

Card games, juggling, and games of chance are all aspects of entertainment that can be highly mathematical. Brown's

presentation will explore such topics as perfect shuffles, random shuffles, and figuring the odds.

The program is sponsored by the Department of Mathematics in celebration of Math Awareness Month. Men and women from high-school age on up who have an interest in math and science are welcome to attend.

For more information, contact Susan Anderson at 1-8041 or anderson@math.vt.edu. Persons with a disability who desire assistive devices, services, or other accommodations to participate in this activity should contact Anderson at least one week before the event to discuss accommodations.

Research Symposium scheduled for April 2

The Graduate Student Assembly is sponsoring the 18th Annual Research Symposium on April 2 from 10 a.m. to 3 p.m. in Squires Commonwealth Ballroom.

The research symposium provides an opportunity for graduate and advanced undergraduate students to showcase their achievements in research.

Students participate in the symposium by submitting an abstract describing their research and presenting a poster. The top three presenters in each category will be awarded a cash prize and will also be invited to attend an awards banquet on April 4.

For more information, contact Selen Olgun (solgun@vt.edu), or Shireen Hafez (shafez@vt.edu).

Veterinary College to present annual open house

Guided tours, sheep-dog and equine-acupuncture demonstrations will highlight the Virginia-Maryland Regional College of Veterinary Medicine's annual Open House on Saturday, April 6 from 10 a.m. until 3 p.m. at Virginia Tech.

The VMRCVM's annual celebration of veterinary medicine will showcase the profession. A special auction featuring collectibles, dinners, and services will be held immediately after the open house at 3:30 p.m.

(See *VETERINARY* on 4)

Element K tutorials enhance proficiency

By Barbara Robinson

Element K, a comprehensive series of over 200 web-based tutorials covering a wide range of computer software, is provided free to faculty and staff members and students by Educational Technologies and the Faculty Development Institute. In use for nearly a year, the tutorials are used in formal classroom settings and staff-development programs, along with considerable independent use by individuals seeking to enhance their technology skills for career and classroom advancement.

A recent addition has been a suite of tutorials aimed at the computer professional, helping to address the long-expressed need for technical training in such areas as Microsoft system administration and Oracle training.

The New Media Center uses Element K as an integral part of training for their student employees, helping them become proficient in the software used in the center, as well as providing just-in-time refresher courses and a reference resource.

Faculty use it to help their students learn software tools they'll be using in a course, saving class time previously used for software tutorials. The controlled environment provided by Element K keeps students on track and minimizes frustration by offering clues to help a student who gets confused or lost.

Element K tutorials are available 24 hours a day and include both PC and Macintosh software. For a list of courses and information on registration, go to <http://www.elementk.vt.edu>. For information on tutorials for computer support staff, send e-mail to elementk@vt.edu.

WARD offers survey use on web

The Web Application Research and Development (WARD) Department has developed a tool called Survey.vt.edu that can be used to create and administer on-line surveys. It is available for use by faculty and staff members and students at <http://survey.vt.edu/>.

This product is easy to use and offers advantages for many situations where paper surveys are currently employed. To ease migration to the on-line environment, Test Scoring Services is offering assistance to clients who are considering the move.

Survey.vt.edu allows creation of multiple-choice questions that permit only one answer as well as questions that allow multiple answers. It also supports essay questions with either short (one-line) or longer answers. Html can be used in headers and footers to enhance the appearance of surveys and an exit page maybe included to provide information after the user has completed the questions.

After the survey is created, clicking a button makes it available to users to start collecting responses. Results may be exported to desktop computers for analysis with Excel, SAS, etc.

For more information, call Test Scoring Services at 1-5413; e-mail testscore@vt.edu.

KINGSTON

Continued from 1

named professor in 1977 and university distinguished professor in 1999.

Kingston holds 13 patents, two of which have been licensed for use by companies, and has brought in more than \$10 million in external funding to Virginia Tech.

Campus police target crosswalk safety issue

By Courtney O'Hara,
University Relations intern

The Virginia Tech Police Department (VTPD) has received a \$1,500 grant from the Department of Motor Vehicles (DMV) to address campus crosswalk safety issues.

Faculty members and students have voiced concerns that vehicles do not stop to allow pedestrians to cross in specified zones. The VTPD has chosen to take a proactive approach and will use grant money to institute programs in the residential halls to increase student awareness of safety issues. This will offer students a chance to interact with VTPD officers to learn what they can do to make their campus a safer place.

"I think these programs will make people really think about pedestrian safety," said Akisha Williams, a senior majoring in environmental science. Officers are already patrolling key crosswalk areas that include those near McBryde and Litton Reaves. They will also begin to target bicycle safety around campus. Bicyclists who ride on the sidewalk will now be charged with a parking violation, and a court summons will be issued if bicyclists fail to follow the specified traffic patterns.

The strong enforcement is a last resort for the VTPD. Officers are hoping that bicyclists heed their warnings. "It is unfortunate that some bicyclists do not obey the laws and this type of

(See *CAMPUS* on 4)

EMPLOYMENT

CLASSIFIED POSITIONS

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

FULL TIME

Six full-time food-service positions available.

Fiscal Technician Senior, 006756G, PB 3, (IRAM).

Program Support Technician, W023391R, PB 3, Graduate School.

Radiologic Technologist, 002394M, PB 3, VTH.

Sales/Marketing Manager, 000478H, PB 3, RDP.

Service Leader Senior, 002937H, PB 1, RDP.

Systems Architect, 007434Y, PB 6, IAD.

TV/Media Systems Engineer, 000196A, PB 4, VBS.

Web Designer, 007510A, PB 4, BEV.

PART TIME

Animal Care Technician, W022563M, PB 1, VTH.

Computer Programming Technician, W023392S, PB 3, UCS.

Fiscal Assistant, W022541M, PB 3, Entomology.

Program Support Technician, 004570M, PB 3, CSES.

Radiologic Technologist, W022412M, PB 3, VTH.

Security Guard, W020470Y, PB 1, Police.

Soil Data Entry, W022827M, PB 2, CSES.

Veterinary Technician, W023340M, PB 4, VTH.

OFF CAMPUS

4-H Technician/Assistant, 007911M, PB 3, VCE—Augusta County.

Geographic Data Developer, 007913M, PB 4, BSE.

Library Assistant, 007269G, PB 3, University Libraries/NVC/Resource Center.

Media/Public Relations Specialist, 007934R, PB 4, IIIT.

Radio Announcer, W020800S, PB 3, UR/WVTF Radio.

FACULTY POSITION

INSTRUCTIONAL

Human Nutrition/Foods/Exercise. Assistant/Associate Professor, Molecular Nutrition (2 positions). Contact: Dianne Yardley, 101 War Memorial (0317). Review begins April 15.

Diversity Incentive Grants proposals sought

The Office of the Provost has announced the thirteenth call for proposals for the Diversity Incentive Grants Program (formerly referred to as the Affirmative Action Incentive Grants Program). The program is designed to provide seed money for new diversity-related activities for faculty and staff members or students. The program will award grants of up to \$2,500 (from a total pool of \$20,000) for innovative diversity projects.

The awards will be made for a one-year period, beginning July 1, 2002, with a possible renewal. Applicants seeking renewal or extension of previously funded projects must also submit a proposal and provide a report of accomplishments to date.

Activities appropriate for support include activities that will enhance the recruitment, retention and advancement of women, minorities and people with disabilities; programs that will encourage behavioral and attitudinal changes supportive of affirmative action and diversity; programs that help

(See DIVERSITY on 4)

University Advising Awards deadline extended to April 12

The Academy for Advising Excellence has extended the deadline for receipt of nominations and dossiers for all university advising awards to Friday, April 12. All departments and divisions are strongly encouraged to recognize and nominate worthy candidates for the advising services they provide to undergraduate and/or graduate students enrolled at the university.

All nominations may be submitted via campus mail to Leslie Graham, ECE-0111 or hand-delivered to Graham in the ECE Department, 340 Whittemore. Contact Graham via phone at 1-8219 or via e-mail at grahamlp@vt.edu for more information.

Alumni Award for Excellence in Undergraduate Academic Advising.

One award of \$2,000 is given each year for excellence in undergraduate advising. To be eligible for the Alumni Award for Excellence

in Undergraduate Academic Advising, the nominee must be a full-time faculty member and must hold the rank of professor, associate professor, assistant professor or instructor. The Academy for Advising Excellence reviews nominations made by students, alumni, faculty members, departments, or self-nominations, and selects a recipient.

Alumni Award for Excellence in Graduate Academic Advising.

One award of \$2,000 is given each year for excellence in graduate advising. To be eligible for the Alumni Award for Excellence in Graduate Academic Advising, the nominee must be a full-time faculty member and must hold the rank of professor, associate professor, assistant professor or instructor. The Academy for Advising Excellence reviews nominations made by students, alumni, faculty members, departments, or self-nominations, and selects a recipient.

A nomination form and instructions can be found at web site <http://www.edtech.vt.edu/ATE/nomform.doc>.

Provost's Award for Excellence in Advising.

One award is given annually to recognize an individual who serves undergraduate advisees in exemplary ways. The award includes a cash prize (\$2,000), a plaque, and membership in the Academy of Advising Excellence. To be eligible for the award, a nominee must be a faculty (instructor or other rank) or classified staff member with assigned undergraduate academic and/or career advising responsibilities.

A nomination form and instructions can be found at web site <http://www.edtech.vt.edu/ATE/provaward.doc>.

An individual who has received any one of these awards is ineligible for another major award for a period of seven years and can receive any particular award only once.

Exemplary Department Awards nominations sought

Each year the university recognizes the work of departments and/or programs that maintain exemplary teaching and learning environments for students and faculty members.

This year, the departments and programs will be recognized for their work in maintaining a high quality of advising at the graduate or undergraduate levels. The deadline for submitting nominations for the awards is noon, Fri-

day, April 12. The recognition includes two \$10,000 awards and a \$20,000 award to the departments and/or programs selected by a committee drawn from the university community.

Nominations are encouraged from undergraduate and graduate students, faculty members, and others who have benefited from the

advising work of the nominated department(s).

Letters of nomination, not to exceed two pages, should describe the achievements of the department(s) in this year's topical area of advising. Letters should be addressed to: Exemplary Department Awards Program Committee, c/o Ronald Daniel, Office of the Provost, 330 Burruss Hall, mail code 0132.



VIRGINIA POLYTECHNIC INSTITUTE
AND STATE UNIVERSITY

Spectrum, a faculty-staff tabloid, is published each Friday during the academic year, with the exception of certain holidays, exam weeks, and the summer. Copy deadline is noon Friday. No advertising is accepted.

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SCHEV

Continued from 1

Craig has taught, or conducted teaching-related activities, from public-school kindergarten to post-graduate level and advanced professional groups around the world.

Craig has earned numerous awards for teaching, including the Sporn Award for Teaching Excellence at Virginia Tech, membership in Tech's Academy of Teaching Excellence, and the Certificate of Teaching Excellence three times.

Craig believes teaching must be closely linked to research, and that teaching is not merely the "dispersal of information whether or not there is any absorption or understanding of that information."

"Jim has been involved in introductory-level large-class teaching for several years, said Craig's department head, Cahit Coruh. "He has served more than 17,000 students and has always gotten really high evaluations from his students. He is an outstanding teacher, and we are extremely pleased to see that he was recognized by this award. Faculty members like Jim Craig

make Virginia Tech a special place. We appreciate his contributions to the department, the college, and the university."

Seiler has previously received nearly every teaching award given by his college and the university. He and his team have used computers and the Internet for enhancing educational opportunities for his students, including developing three web sites, an electronic forest-biology textbook, and two multi-media woody-plant identification CD's. His two-CD set, *Woody Plants in North America*, was recently highlighted in the *Chronicle of Higher Education* and is being used by universities and individuals across North America.

"I like to think of myself as a teaching professor," Seiler said. "I cannot imagine working in a job where I cannot share what I know and have discovered with others. Over the years I have taught classes ranging from forest-fire management to trees physiology."

In addition to SCHEV's honor, last fall he received the United States Department of Agriculture Food and Agriculture Sciences Excellence in Teaching award.

Seiler has twice received the College of

Natural Resources' Curriculum Clubs' Outstanding Faculty Award. In 1994, he received a University Certificate of Teaching Excellence, and in 1997 was honored with Virginia Tech's William E. Wine Award for his commitment to instruction at the university.

In 1998, the Society of American Foresters awarded him the nationally recognized Carl Alwin Schenck Award for excellence in the field of forestry education and devotion to the art of teaching.

Gregory Brown, dean of the College of Natural Resources, said "because of his extraordinary teaching excellence over the years, John was recently named the Honorable and Mrs. Shelton H. Short Jr. professor, following retired David Smith."

A tree physiology and silviculture specialist, Seiler has academic interests in environmental-stress effects on woody plant physiology, including water and pollutant stresses, physiological responses to silvicultural treatments, and carbon sequestration (removing carbon from the atmosphere).

William F. Collins, 83

By Stewart MacInnis

William F. Collins, retired professor of food science and technology, died March 15 at the age of 83.

Collins was an Extension specialist working with dairy processors across the state. He was also involved in teaching. He served as acting head of the Department of Food Science and Technology for approximately one year in the early 1980s.

"He had a curious mind," said Neal Boyd, who worked with Collins. "He was very people-oriented, always wanted to know more about them in a way that made them feel good."

Collins joined the Virginia Tech faculty in 1973 and retired in 1984.

He earned his bachelor's degree from Penn State and returned to that university to earn his master's and doctoral degrees. He was active in numerous professional organizations.

Wilford Heyman Lane

By Sally Harris

Professor Wilford Heyman (Bill) Lane, associate professor emeritus of history, died Jan. 14, 2002.

Lane received a B.A. and an M.A. in history from the University of Alabama and did further graduate studies at Duke and Yale. He taught history at Virginia Tech for 32 years, even teaching part time while serving as associate dean of the College of Arts and Sciences at the time in which the first students graduated with degrees in the liberal arts. He taught Latin American History, in particular the

Caribbean, and also taught European history. He also worked part time in the Dean's Office after he retired.

He was a member of Pi Kappa Phi Fraternity and advisory for Alpha Phi Omega service organization. He also served in the College of Arts and Sciences Advisory Center.

"He was very interested in his students," said Tom Howard of the history department. "He was very popular. He had a good sense of humor and always had something pleasant or witty to say. He disliked no one."

BUSINESS

Continued from 1

than 20 years at Virginia Tech. His interest in Portugal, he said, is a natural outgrowth of his active participation in the International Operations Consortium, a six-member academic consortium that includes Virginia Tech and the *Universidade de Coimbra*. Since 1997, he has served as the consortium's business coordinator.

It will be Huang's second trip to Coimbra. He taught two MBA course modules and conducted research with two professors during his previous visit, in the summer of 1998. "We developed an aggregate production planning model that more closely reflects Portugal's business practices and culture, including the reluctance to lay off workers when product demand is low," Huang said. They demonstrated the model's application with data from a Portuguese company. Their article was published in 2000 in a refereed journal, the *International Journal of Production Research*.

Huang hopes his research next year will contribute to greater understanding of supply-chain management practices in Portugal and

will give American businesses needed knowledge about using information technology to manage supply chains there.

He also hopes that his study will find use in the classroom with teachers who seek to blend theory with practical and current examples and a global perspective. "International operations management has become an integral part of management education in American business schools," Huang said.

FACULTY

Continued from 1

supplied by geneticists and biochemists, and then figure out how the contraption works."

To do this, modelers convert their hypothetical wiring diagram into precise mathematical equations and use computers to predict the behavior of the model. They then compare the behavior of the model with the observed behavior of cells to see if the hypothesis and reality agree, Tyson said. "If they do, then we can have some confidence that the wiring diagram is correct, and we can use it to predict new experiments. From beginning to end, we need to collaborate closely with experimentalists to give us specific information about the mechanism itself and the idiosyncratic behavior of real, living cells."

For many years, theoretical biologists have been building small models with restricted sets of experiments, but the goal of BioSPICE is to create software to facilitate simulation of complex, realistic molecular-control systems—simulations that can be truly useful in solving military and health-related problems, Tyson said.

Administrators provide budget update

By John Ashby

Executive Vice President Minnis Ridenour and Provost Mark McNamee provided assessments and updates related to the current budget situation at the second University Budget Forum last week.

Ridenour discussed the budget cuts facing the university in this and upcoming biennia. In the 2002-04 biennium, Ridenour said, the university will have to cope with a \$25.1-million net General Fund reduction. For comparison, Ridenour said the university dealt with a \$30.7-million net General Fund reduction from 1990 through 1996.

One bright spot in the budget picture, Ridenour said is the capital package for campus building projects, totalling \$314.1 million. (See *March 22 edition of Spectrum for details of the capital-project package*.) Ridenour reminded those in attendance that the capital-project package must be approved by state voters in a referendum this fall.

Ridenour said the appropriation act from the recent General Assembly session provides for a 2.5-percent bonus for all employees this December. Additionally, the act provides for a 2.75-percent base-salary adjustment in December 2003, with the understanding that the amount could be increased if the economy improves.

The university is positioned, Ridenour said, to receive funding in support of operations and positions in addition to funding for faculty and staff salaries, once the recession period is over. The funding would reflect the state's commitment to the Base Budget Adequacy funding principles that provide the

benchmarking process for faculty salaries and operating budgets.

McNamee said plans for 6-and 7-percent reductions are being reviewed, and "we expect to make an announcement regarding the university's budget-reduction actions by May 1." He said with 80 percent of budgets consisting of personnel costs, most of the proposed cuts will involve reduction in force (RIF), and that many RIF proposals are in retirements and loayoffs. He cautioned listeners that it is a priority "to preserve and protect the integrity of the academic process," and to manage the impact of the changes for students. "Cuts of this magnitude will bring pain to everyone at the university," he said.

During the question-and-answer period, Ridenour was asked if there would be an incentive program for faculty and staff members to leave the university. Ridenour said there was no state or university buyout program. He said the university had received approval from the Board of Visitors for a severance package for faculty and administrative and professional faculty members to assist departments that are required to use a reduction in force to meet budget targets.

Ridenour emphasized that the program is not voluntary, but could assist departments by allowing individuals where personnel reductions are required to self-select and request to participate in the severance program.

Ridenour said the university is also seeking state approval for a severance program for classified staff members through the state Department of Personnel and Training.

CRAWFORD

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positively which structure the experimentalists should target in the laboratory."

However, quantum computation is very complicated mathematically and requires vast computer resources. "When the molecule gets larger, the calculations can become dramatically more expensive to run," Crawford said. For example, high-level calculations for an amino acid such as valine might take about five days, but calculations for the valine-valine dimer (two valines together) take more than two years.

"We have ideas for significantly improving the scaling of these models," Crawford said. "We're breaking the molecule into pieces and dealing with it a fragment at a time and then putting it together at the end. With this approach, we can leave out electronic interactions on pieces of the molecule that are widely separated." If these reduced-scaling techniques are successful, Crawford envisions his work helping to speed

up the synthesis of natural products that will have uses in medicine and other fields.

Crawford has received several awards for his research, including the New Faculty Award from the Camille and Henry Dreyfus Foundation and a Research Corporation Research Innovation Award. He joined the Virginia Tech faculty in August of 2000 following a post-doctoral appointment at the University of Texas.

(Editor's note: This is the fifth of a series of articles covering university faculty members who have received NSF funding.)

DIVERSITY

Continued from 1

accomplish the goals of the university or college's diversity strategic plan; and studies to evaluate affirmative action or diversity programs, or to develop a better understanding of these issues at Virginia Tech.

Proposals may be submitted by individual faculty or staff members, by university departments or by recognized campus organizations.

Application forms and more information are available from the Office of the Provost's web site (www.provost.vt.edu, see "Diversity"); Office of the Provost (330 Burruss); phone 1-6122, or e-mail kcouncil@vt.edu.

The deadline for application submission is April 26.

CAMPUS

Continued from 2

enforcement becomes the only means to get their attention," Chief Debra Duncan said.

Lieutenant Deborah L. Morgan said she feels all of these issues are critical to address with spring bringing more students out as well as more visitors to campus, thereby increasing foot traffic. "Our department consistently tries to do everything we can to make our campus safer for students, faculty and staff members and visitors," Morgan said.

Officers urged all campus pedestrians to use extreme caution when crossing streets.

VETERINARY

Continued from 2

At 10 a.m., veterinary students will begin conducting guided tours of the Veterinary Teaching Hospital and other college facilities. Tours last approximately 60 minutes and will depart at 30-minute intervals throughout the day.

For more information, e-mail Annie Harvilicz at aharvilli@vt.edu or call 1-7666.

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