

SPECTRUM

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VIRGINIA POLYTECHNIC INSTITUTE AND STATE UNIVERSITY

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University begins search for new VP for research

By Clara B. Cox

The university has formed a committee to begin a national search for a new vice president for research, a position that has been filled on an interim basis since April 1, when Leonard K. Peters stepped down.

"The new vice president will guide and shape our steps toward achieving the ambitious research and scholarship goals that we set in the strategic plan. From overseeing an infrastructure supportive of the research enterprise to articulating a vision that draws upon our considerable strengths and helps move us forward, the right candidate will have an opportunity to make a significant difference for Virginia Tech," said Mark McNamee, university provost and vice president for academic affairs, who chairs the search committee.

The committee held its first meeting on October 3 to review the search process,

finalize the position announcement, outline qualifications, and set a timetable for its work.

In addition to McNamee, members of the 20-member search committee are Hassan Aref, dean, College of Engineering; Jim Berkson, assistant professor of fisheries and wildlife sciences; Erv Blythe, vice president for information technology; Karen DePauw, dean of the Graduate School and vice provost for graduate studies; Delbert Jones, lab specialist in the College of Veterinary Medicine; Bob Lang, research associate professor for the Virginia Tech Metropolitan Institute; Bill Madia, executive vice president of laboratory operations for the Battelle Memorial Institute; George Morgan, professor of finance and director of the Center for Wireless Telecommunications; Saied Mostaghimi, head of the Department of Biological Systems Engineering; Joseph Pitt, head of the department of philosophy and chair of the

Commission on Research; Sharron Quisenberry, dean of the College of Agriculture and Life Sciences; Dave Richardson, director of the Office of Sponsored Programs; Judy Riffle, professor of chemistry; Karen Roberto, director of the Center for Gerontology; Gerhardt Schurig, interim dean of the College of Veterinary Medicine; Bruno Sobral, director of the Virginia Bioinformatics Institute; John Tyson, university distinguished professor of biology; Mike Vorster, professor of civil and environmental engineering and director of the Construction Affiliates Program; and Bonnie Woffenden, postdoctoral fellow in plant pathology, physiology, and weed science.

McNamee asked that all members of the university community, faculty, staff, students, and alumni, identify outstanding candidates and forward nominations to the committee by contacting him at mmcnamee@vt.edu.

Tech athletes test brain-injury monitoring system

By Liz Crumbley

When they played Texas A&M September 18, the Hokies became the first athletes in the world to test a new brain-injury monitoring system.

Every year in the United States, thousands of athletes suffer traumatic brain injuries and many die as a result. Virginia Tech researchers and sports medicine professionals have launched the monitoring project in an attempt to help prevent these injuries.

Stefan Duma, associate professor of mechanical engineering and director of the Center for Injury Biomechanics, developed the idea for the project in February after seeing a presentation about a new type of sensor system that can be used to record impacts to football helmets. The system, called HITS (Head Impact Telemetry System), is manufactured by SIMBEX, a company in Lebanon, New Hampshire.

After talking with SIMBEX president Rick Greenwald about HITS, Duma initiated a collaborative project with Gunnar Brolinson, the head team physician, and Mike Goforth, head trainer, both of Virginia Tech Sports Medicine. Brolinson is also on the faculty of the Edward Via Virginia College of Osteopathic Medicine, which became one of the sponsors of the project along with Sports Medicine and the Virginia Tech College of Engineering.

Over the past six months, the research team has developed a comprehensive study that combines the data from HITS with new methods for clinically evaluating brain trauma. Currently the project is in the pilot stage.

Each of four players' helmets is fitted with six accelerometers, which measure impacts to the helmets in terms of "G," or gravity, forces. During football games, the sensors transmit real-time impact data to a sideline computer system that keeps track of a range of head-impact data for each player wearing the HITS sensors.

"Football helmets receive a lot of impacts that will register but that don't indicate injury," said Bill Bussone, Duma's graduate assistant. A fellow player smacking a sensor-equipped helmet might cause the system to show several G forces, for example. What the researchers are hoping to discover is the level at which impacts begin to result in injury and the cumulative effects of impacts.

Duma and Brolinson can read and evaluate the data on the spot while impacts are taking place. They plan to use the monitoring system during every Virginia Tech home game this season. In the coming year, Duma said, as many as 64 Hokies can be connected to the monitoring system simultaneously.

"There's great potential for prevention of sports-related brain injuries," Duma said, "but the lack of scientifically sound, evidence-

(See *ATHLETES* on 4)

State universities combine forces for National LambdaRail

By Jean Elliott

With heated global competition, the United States is in a marathon race to maintain an edge in fundamental areas of research and innovation. The National LambdaRail (NLR) initiative is expected to provide critically needed high-speed network infrastructure for the next generation of research.

Going beyond Internet and Internet2 technology, NLR will provide the resources for members across the nation to connect to a fiber-optics network with supercomputing, storage and visualization capabilities suited to "big-science" research. NLR will provide

a national fiber-optic backbone linking research universities and laboratories at gigabit and higher speeds. The NLR initiative is a partnership formed by many leading research universities and corporate networking entities throughout the United States.

To create the NLR backbone, regional nodes will be positioned in major urban areas to form a trans-continental network. The regional nodes serve not only as a component of the NLR backbone but also as the regional access points to the NLR. In the mid-Atlantic region, Washington, D.C. is the major urban area. A node will be placed in the fiber carrier's

regional access point in Northern Virginia to create the Washington NLR node.

Virginia's research universities have formed the Mid-Atlantic Terascale Partnership (MATP) to sponsor location of an NLR node in the area, to facilitate access to it, and to strengthen collaboration for combining computational resources and application support. Founding members of MATP include Virginia Tech, the University of Virginia, Old Dominion University, Virginia Commonwealth University, George Mason University, the College of William and Mary,

(See *STATE* on 2)

Tech, Texas to create wireless simulator

By Lynn A. Nystrom

Officials at Virginia Tech and the University of Texas at Austin (UTA) have announced they have been awarded two three-year research grants from the National Science Foundation (NSF). The NSF awards provide combined funding of about \$2 million to both institutions.

The highly competitive grants will allow the two universities to create a revolutionary computer program that provides for the rapid testing and deployment of future wireless networks. The collaboration will combine engineering faculty members from Virginia Tech's computer-science department with faculty members from both electrical and computer engineering and computer science at the University of Texas at Austin.

The co-investigator on both grants is Ted Rappaport, the William and Bettye Nowlin professor of engineering at the University of Texas and formerly a member of Virginia Tech's engineering faculty.

"Future wireless devices will enable streaming video, voice over the Internet and vast amounts of data transfer. While we are

(See *TECH* on 2)

Electronic Theses/Dissertations Reach 5,000 Mark

By Julie Kane

Since 1997, graduate students at Virginia Tech have been required to submit their theses and dissertations (ETD's) on line. Although there are nearly 50 universities in the Networked Digital Library of Theses and Dissertations (NDLTD) that require ETD's, Virginia Tech was the first to make it mandatory. Recently, the university approved its 5,000th ETD.

"Paper-based theses/dissertations normally would have received two or three hits a year," said Karen DePauw, vice provost for graduate studies and dean of the Graduate School. "Now some ETD's are accessed hundreds of times by scholars all over the world."

The 5,000th ETD is by Forrest McFeeters, formerly a Ph.D. student in the Department of Teaching and Learning. His dissertation is entitled, "The Effects of Individualism vs. Collectivism on Learner's Recall, Transfer and Attitudes Toward Collaboration and Individualized Learning." His study involved 108 graduate students from 20 countries around the world.

"I plan to publish articles based on my findings," he said. "I intend to create more effective learning outcomes on the Internet for students in the future." His advisor was Glen Holmes, former associate professor in teaching and learning at Virginia Tech.

A team composed of John Eaton, former associate provost for the Graduate School; Ed Fox, a professor in computer science; and Gail McMillan, director of Digital Library and Archives, began to work on the idea of ETD's at Virginia Tech in 1993. The idea had been in the talking stages since 1987.

Eaton, who was credited with convincing the Tech faculty and graduate deans across the nation that ETD's were the wave of the future said, "The submission of ETD's is the beginning of a new era for graduate study. ETD's can improve movement of drafts between student and committee, teach students to use digital libraries and publish electronically, and

(See *ELECTRONIC* on 4)

ACTIVITIES

EVENTS

Friday, 17

Last Day to Resign.

Saturday, 18

Parents' Day.

Music Event, 8 p.m., Squires Recital Salon: Chamber Singers concert.

Sunday, 19

Music Event, 3 p.m., Squires Recital Salon: Early Music Ensemble concert.

Monday, 20

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

VTU, 7:30 p.m., Burruss auditorium: "Singin' in the Rain."

Tuesday, 21

Faculty Senate, 7 to 9 p.m., 32 Pamplin.
Web Course Request Spring 2004.

Wednesday, 22

Football, 7:30 p.m.: At West Virginia.
"With Good Reason," 7:30 p.m., WVTF.

Friday, 24

2004 Cool Women of VT Calendar Photo, noon to 1 p.m., Drillfield.

Sunday, 26

Asian Awareness Week Begins.

Monday, 27

On-campus Bloodmobile, noon to 6 p.m., Squires.

Tuesday, 28

On-campus Bloodmobile, noon to 6 p.m., Squires.

Wednesday, 29

On-campus Bloodmobile, 10 a.m. to 4 p.m., Squires.
"With Good Reason," 7:30 p.m., WVTF.

Friday, 31

Pay Date for Faculty and Staff Members.
Music Event, 8 p.m., Squires Recital Salon: Chamber Music.

SEMINARS

Friday, 17

MCBB, 12:20 to 1:10 p.m., Fralin auditorium, Robert E. Blankenship, Arizona State University.

Geosciences, 3:30 p.m., 4069 Derring: David Lambert, NSF.

MSE, 3:30 p.m., 100 Hancock: Lourdes Salamanca-Riba, University of Maryland.

Philosophy, 4 p.m., 225 Major Williams: Mark Goodwin. **CANCELLED.**

Monday, 20

Biochemistry, 4 p.m., 223 Engel: Maor Bar Peled, University of Georgia.

Friday, 24

MCBB, 12:20 to 1:10 p.m., Fralin auditorium, Frank Church, University of North Carolina.

Geosciences, 3:30 p.m., 4069 Derring: John Wood, Harvard/Smithsonian Astrophysical Observatory.

Philosophy, 4 p.m., 225 Major Williams: Mark Goodwin.

Monday, 27

Biochemistry, 4 p.m., 223 Engel: Shirley Luckhart.

Thursday, 30

Statistics, 3:45 p.m., 409 Hutcheson: Enrique del Castillo.

Friday, 31

MCBB, 12:20 to 1:10 p.m., Fralin auditorium, Debra Diz, Wake Forest Medical School.

Geosciences, 3:30 p.m., 4069 Derring: Heinrich Holland, Harvard.

MSE, 3:30 p.m., 100 Hancock: Matt S. Tillman, Naval Air Systems Command.

BULLETINS

Cuba trip applications sought

Cuba expert Joseph Scarpaci, professor of geography, will lead his 39th tour to Cuba December 5 through 12. The trip, limited to 24 non-students, will explore the built environments of Havana and include the UNESCO World Heritage sites as well as the *Pinar del Rio*. His license for this kind of travel expires at the end of the year.

Scarpaci has just received his license renewal from the U.S. Treasury that allows him to take students to Cuba through 2005. In addition to touring major architectural sites, participants will hear presentations by Cuba's leading architects, planners, and other scholars as well as meet with diplomats at the U.S. Interests Section in Havana.

Persons interested in the trip need to sign up immediately; applications are available at web site: <http://www.arch.vt.edu>

CAUS/CAUSalumni/cuba.htm.

The basic trip with double room occupancy will cost \$2,890; single rooms are an additional \$420. Participants depart from Miami and must get there on their own.

For more information, contact Scarpaci at 1-7504, or scarp@vt.edu.

Participants sought for calendar cover

Participants are being sought be a part of the Women's Center's Tenth Anniversary Celebration by spelling VT Women on the Drillfield for the cover of the *2004 Cool Women of VT Calendar*. The formation will be organized and the photo taken from the roof of Burruss on Friday, Oct. 24, beginning at noon through 1 p.m. All men and women are welcome. For more

information, call 1-7806.

AAUW sponsors STEM programs

The American Association of University Women (AAUW) will present programs to recruit and retain women in science, technology, and engineering Thursday, Oct. 30 at 4 p.m. in the Blacksburg Public Library.

Teachers, counselors, students and interested parents are invited to a discussion by Virginia Tech faculty members about programs and projects that aim to support the recruitment and retention of girls and women into science, technology, engineering, and mathematics (STEM) disciplines and careers. The programs and projects they will discuss impact women in high school through faculty positions.

Simulated residence-hall room fire part of 'Fire Prevention Month'

By Mark Owczarski

Students and administrators will build, and subsequently burn, a simulated residence-hall room as part of the university's on-going efforts to educate students during Fire Prevention Month.

The demonstration, organized by Virginia Tech's environmental, health and safety services department, will be held Friday, Oct. 24 at noon.

The replica room will be built by students from the ROTC program on the lawn in front of Dietrick Hall, located across the street from Cassell Coliseum. Heavener Hardware and Lumber in Blacksburg donated materials used to construct the simulated residence-hall room, and the Office of Residential and Dining Programs supplied the furnishings. The Blacksburg Fire Department will assist in the

demonstration and extinction of the fire after the room is fully engulfed in flames.

According to Clark Mitchell, fire-protection inspector at Virginia Tech, a typical residence hall room can be engulfed in flames in a matter of minutes. The objective of this event is to provide students, faculty and staff members with a graphic demonstration on how quickly fire can spread, Clark said.

Environmental, Health and Safety Services will videotape the demonstration and produce a training video to help students understand the importance of fire prevention.

According to the National Fire Protection Association, more than 1,700 fires occur in residence halls and sorority and fraternity housing every year, resulting in \$2.8 million in damage.

STATE

Continued from 1

and associate member Oak Ridge Associated Universities.

The Virginia Tech Foundation, acting on behalf of MATP, is the NLR member representing Virginia, Maryland, and Washington DC.

Each MATP participant will share a portion of the cost commitment made by the foundation to ensure location of an NLR node in the Washington area and access by area institutions.

VTF has appointed Erv Blythe, vice president for information technology at Virginia Tech, to serve on the NLR, Inc. Board of Directors. Blythe has been extensively involved in the detailed planning and development of

the NLR initiative. Before its creation, he wrote several key papers outlining the research and experimental mission and charter for the proposed organization, and he has been instrumental in its organizational development.

Blythe said, "The purpose of MATP is to promote the research competitiveness of institutions in the region. The NLR infrastructure will provide an enabling experimental infrastructure for new forms and methods of science and engineering. The greater Washington area—Virginia and Maryland—needs to be an early player in this developing experimental network infrastructure, just as it was an early player in the emergence of the Internet."

TECH

Continued from 1

many years away from being able to use wireless broadband devices in a ubiquitous manner, the software needed to simulate these future devices and networks must be created now," Rappaport said.

He and his colleagues at the Wireless Networking and Communications Group (WNCG) at the University of Texas will work with Professors Naren Ramakrishnan and Srinidhi Varadarajan at Virginia Tech. The project is expected to involve six faculty members and 15 students between the two universities, and will yield a novel, public-domain software simulator that can replace actual hardware while emulating thousands of simultaneous wireless users on a national or international wireless network.

Virginia Tech's recent thrust to develop a national-scale parallel computing cluster will be an important resource for the collaboration and was a key factor for the NSF awards. Varadarajan is an NSF Career Award recipient and recently was named the director of the Terascale Supercomputing Facility at Virginia Tech.

Within a few weeks, Varadarajan will announce the benchmarking number for the supercomputer he and his colleagues are creating, and it could be an impressive number if all goes as planned.

Hassan Aref, dean of the College of Engineering, explained the new supercomputer will be able to handle advanced research such as this cooperative NSF grant. The supercomputer will support "big-science" research.

CAMPUS UPDATE

Circle of Excellence holds inaugural retreat

To learn how they can play a greater role in shaping the future of Virginia Tech, close to 50 women—including alumnae, university friends, faculty and staff members from across Virginia and several states—participated in the inaugural Circle of Excellence retreat this summer. The two-and-a-half day forum also provided university leaders with insight on the type of relationship women want to develop with the university.

A brainchild of Elizabeth Flanagan, vice president for Development and University Relations, the Circle of Excellence effort will continue to play a critical role in the university-wide initiative of advancing the influence of women on Virginia Tech. "As a woman, I am particularly interested in the role of women—past, present and future—in molding a university that meets and will continue to meet the needs of our society," Flanagan said.

Numerous opportunities for women to assume leadership roles, such as serving on advisory boards and committees and spearheading new university-wide initiatives abound, Flanagan said. With female enrollment on the rise, and projected to account for half of the university's population by 2025, the retreat explored ways to keep women engaged in the academic and social life of Virginia Tech.

Several faculty members presented talks and workshops on their areas of expertise to illustrate the vitality of women on campus. Some of the speakers included Karen Torgersen, director of Undergraduate Admissions, Rachel Holloway, associate professor and department head of communications, Lucinda Roy, alumni distinguished professor of English, H. Marie Suthers-McCabe, associate professor of small clinical sciences and director of the Center for Animal Human Relationships, and Bonnie Henrickson, women's head basketball coach.

Roy, who presented the keynote address and a subsequent workshop on finding creativity, said it is always "refreshing" when

women get together and generate good ideas and lots of energy.

Holloway's presentation, "Women Communicating: What Research and Experience Tells Us," explored gender stereotypes and ways in which women communicate in leadership positions. Holloway said it was gratifying to meet so many women committed to the institution, and to hear positive reinforcement on how faculty members are viewed.

Participants, all of whom paid their own expenses, participated in recreational and relaxation activities, including nature walks, cooking demonstrations and an afternoon tea with Janet Steger. "As a woman and alumna of Virginia Tech, I was pleased to meet so many fascinating women who care deeply about the university," Steger said. "It was a privilege for me to be a part of this inaugural effort and I look forward to building upon the collective energy and excitement of this group."

Plans are under way for next year's retreat, and for regional focus group meetings to identify specific needs of the university and projects where women can have the greatest impact. For more information, visit www.vpdur.vt.edu/circle.

Sewell elected to lead new equal opportunity and diversity commission

Edd Sewell, associate professor in communication studies, was elected chairperson of the new Commission on Equal Opportunity and Diversity in an orientation meeting last month. The commission began its work on September 8.

The Office of Multicultural Affairs will provide staff support services to the commission, working in collaboration with the

Office of the Provost, the Office for Equal Opportunity, and the Department of Personnel Services. During its orientation sessions, the commission discussed how it should organize itself and conduct business. The members also discussed a wide range of topics and issues dealing with diversity, equity, and multicultural matters of the university community.

(See SEWELL on 4)

OSER changes its name to VTabc

By Susan Trulove

The Optical Sciences and Engineering Research Center (OSER) has changed its name to the Virginia Tech Applied Biosciences Center (VTabc). "The new name more accurately reflects the activities that have evolved at the center, our future focus, and our affiliation with this university," said Director William Spillman.

OSER was established in 1999 as part of an agreement between Virginia Tech, the

(See OSER on 4)

IAWA meeting features Pakistan's first woman architect

By Zoe Mathias, CAUS intern

The International Archive of Women in Architecture (IAWA) held its annual meeting here September 12-14. As a part of the meeting, the IAWA held a day-long symposium and invited architects and archivists from around the country to speak to the public, including Yasmeen Lari, the first woman architect in Pakistan.

(See IAWA on 4)

EMPLOYMENT

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.

CLASSIFIED POSITIONS

FULL TIME

One food-service position available.
Administrative Assistant, 008208B, PB 3, Mechanical Engineering.
Administrative Support Specialist, 007627B, PB 3, Engineering.
Agricultural Supervisor, 003357M, PB 3, APS.
Anesthesia Technician, 002998M, PB 4, VTH.
Anesthesia Technician, 008097C, PB 4, VTH.
Assistant Director, Development Research, 001557S, PB 4, University Development.
Assistant Manager, 000561H, PB 3, Student Programs.
Assistant to Chief Engineer, 008204S, PB 4, WVTF.
Associate Director of Facilities Management, 008175H, PB 5, Student Programs.
Benefits Transactions Assistant, 007017F, PB 3, Personnel Services.
Building/Grounds Supervisor B, 001366F, PB 4, Physical Plant.
CALS Career Services Director, 002316M, PB 4, CALS.
Director of Internal Audit, CCCCCC, PB 0.
Eligibility Analyst Coordinator/Graduation Analyst, 001609S, PB 3, University Registrar.
Executive Chef, 007008H, PB 4, Dining Services.
Fire Protection Technician, 000192G, PB 4, Physical Plant.
Fiscal Assistant, 007908M, PB 2, CVM.
Salary Pool, P03000H, PB 1, Student Programs.
Food Service Supervisor, 001118Y, PB 3, DBHCC.
Furnishings Manager, 007291H, PB 3, Student Programs.
Housekeeping Worker, P04000H, PB 1, Student Programs.
HR Policy/Operations Coordinator, 002574D, PB 5, Personnel Services.
Human Resource Coordinator, 008044S, PB 4, University Development.
HVAC Installation & Repair Technician, 000634F, PB 3, Physical Plant.
HVAC Technician, 006994H, PB 3, Student Programs.
Interdisciplinary Studies Staff Support, 008211B, PB 3, Interdisciplinary Studies.

Lab Specialist Sr., 002465B, PB 4, MMR.
Laboratory Specialist, 007439M, PB 3, Biochemistry.
Laboratory Specialist Senior, 008015M, PB 4, PPWS.
Manager, Student Organization Accounting, 002203S, PB 3, UUSA.
Medical Technologist, 002651C, PB 4, VTH.
Office Services Specialist, 002023M, PB 2, CVM.
Painter, 008161H, PB 3, Student Programs.
Painter Supervisor, 008160H, PB 3, Student Programs.
Plumber, 007830H, PB 3, Student Programs.
Plumber Steamfitter, 001844F, PB 3, Physical Plant.
Powerline Worker, 006524F, PB 3, Facilities.
Programmer, 008212M, PB 4, AHRN Information Technology.
Publications Manager, 0LC050S, PB 4, Alumni Relations.
Research Specialist, 008131C, PB 3, CSES.
Small Animal ICU Technician, 008095C, PB 4, VTH.
Sous Chef, 002946H, PB 3, Student Programs.
Staff Architect, 008079F, PB 5, University Architect.
Trades Utilities Master Mechanic, 002272F, PB 4, Physical Plant.
TV Producer/Director, 002357A, PB 4, VBS.
Unit Manager, 007961H, PB 5, Student Programs.

PART TIME

Administrative Assistant, W023527K, PB 2, VBI.
Computer Support Specialist, W023609B, PB 4, MME.
E-commerce Application Developer, W022147Y, PB 4, Middleware Services.
Fiscal Assistant, W023548S, PB 2, University Registrar.
Health/Activity Assistant, W022916B, PB 3, ADS.
Information Technology Analyst, W023607S, PB 4, CEUT.
Laboratory Specialist, W023550M, PB 3, CVM.
Laboratory Specialist, W023608B, PB 3, Chemistry.
Quarry Mason, W023368F, PB 3, Physical Plant.
Radiologic Technologist, W022238M, PB 3, Schiffert Center.
Receptionist, W023610Y, PB 2, Information Technology.
Special Events Coordinator, 008210B, PB 4, Interdisciplinary Studies.
Switchboard Operator, W022101A, PB 2, CNS.
Technical Program Support, W023605S, PB 3, IDDL.
OFF CAMPUS
Director of Nursing, 002178M, PB 4, EMC.
Efnep Program Assistant, 008213M, PB 2, VCE—Rockingham County.
Nursing Shift Supervisor, 002996M, PB 2, EMC.
Operating Room Technician, 008144M, PB 2, CVM.
Operating Room Technician, 000542M, PB 2, CVM.
Student Enrollment Assistant, 002089B, PB 3, NVC.
Unit Administrative Assistant, 006285M, PB 3, VCE—Prince William County.
Veterinary Technician, 006669M, PB 4, EMC.
Wildlife Worker, 006643B, PB 2, Biology.

FACULTY POSITIONS

INSTRUCTIONAL

Bioanalytical/Biophysical Chemistry, Department of Chemistry. Contact: John Morris, Department of Chemistry.
Chemistry, Department of Chemistry. Contact: T. Daniel Crawford, Department of Chemistry.
Assistant or Associate Professor, Department of Science/Technology in Society. Contact: Karen Snider, Science and Technology in Society.
Biology, College of Science. Contact: Richard Walker, Department of Biology.
Department of Biology/Fralin Biotechnology Center. Contact: Molecular Biology Search Committee, Department of Biology/Fralin Biotechnology Center.
Tenure Track Faculty Position, Bradley Department of Electrical/Computer Engineering. Contact: W.L. Stutzman, Bradley Department of Electrical/Computer Engineering (0111).
Condensed Matter Physics: Nanoscale/Computational Physics, Department of Physics. Contact: B. Schmittmann, Physics Department.
Computational Biology, Department of Biology. Contact: John Tyson, Department of Biology, (0406).
Tenure Track Faculty Position, Human-Computer Interaction, Department of Computer Science. Contact: HCI Faculty Search, Computer Science, 660 McBryde.

NON-INSTRUCTIONAL

Postdoctoral Associate, Biology Department. Contact: Glenda Gillaspay, Department of Biochemistry.
Administrative/Financial Manager, College of Architecture/Urban Studies. Contact: Paul Knox, c/o Elizabeth Roberson, 202 Cowgill (0205).
Extension Agent, 4-H Youth Development—Craig County. Contact: Robert Meadows, Virginia Cooperative Extension, 121 Hutcheson, (0437).
Extension Agent, Food, Nutrition/Health—Franklin County. Contact: Eleanor Schlenker, Virginia Cooperative Extension, 121 Hutcheson, (0437).
Associate/Assistant Director of Gift Planning, University Development. Contact: Rhonda K. Arsenault, University Development, 201 Pack Building, (0336).
Assistant Registrar for Transfer, Office of the Registrar. Contact: Wanda Dean, University Registrar, 250 Student Services Building, (0134).
Director of Annual Giving, University Development. Contact: Rhonda Arsenault, University Development, 201 Pack Building, (0336).
Department Head, Department of Engineering Science and Mechanics. <http://www.esm.vt.edu>.

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Engineering researcher taming wild chip

By Liz Crumbley

We delight in the way that each new generation of computers can perform increasingly complex tasks and operate at faster speeds—from surfing the Internet in real time to solving differential equations. But most of us don't realize that our gain comes at a high price for the semiconductor industry in terms of more complex designs and tests for speedier computer chips.

Intel Corp. and the National Science Foundation (NSF) have turned to Michael Hsiao, associate professor of electrical and computer engineering at Virginia Tech, to help meet these challenges.

Hsiao is creating tools that will save time and improve accuracy in the design, testing and verification of computer chips. The tools will be useful throughout the semiconductor industry and could help keep down the future costs of chips—and computers.

Working with a \$225,000 grant from NSF, Hsiao is developing graph-theoretic algorithms (problem-solving mathematical procedures) to reduce the time it takes to verify chips against errors.

"Semiconductor chips are becoming far more complex and about 70 percent of design time is dominated by verification," Hsiao said. "We have already achieved an order-of-magnitude breakthrough toward our goal of reducing verification costs, and hope to have another breakthrough soon."

Hsiao's approach in the NSF-sponsored project involves using non-conventional methods to perform accelerated state-space exploration, a key step in design verification.

Intel has awarded Hsiao a \$120,000 grant to work on testing high-performance chips.

Each Pentium chip is tested before it is shipped, Hsiao explained. Before the technology reached today's high speeds, testing was not a significant problem. Higher "clock rates"—the speed at which computer chips process instructions—along with other design advances make chips more vulnerable to speed-related failures.

During the past 30 years, Intel has increased the clock rate of its computer chips from several MHz (megahertz—or million cycles per second) to a top speed today of three-GHz (gigahertz—or billion cycles per second). Intel's Pentium 4 chip, for example, is designed to operate between two to three GHz.

"It's already a daunting task to test a three-GHz chip. It is critical to ensure that each chip works at the correct processor speed and that it won't fail at the rated clock," Hsiao said. "But testing will become even more of a problem as Intel moves on to the next generation processor, which will operate at speeds greater than three GHz."

Hsiao's goal is to develop state-of-the-art algorithms and tools that will significantly decrease the time required to test the performance of each chip manufactured.

risk of having suffered a concussion.

Although Hokie football will be the groundbreaking arena for the monitoring system, Duma believes that this research can lead to advances in brain-injury prevention in a number of sports that pose the risk of head injury.

"Once we collect and evaluate a body of data, we can redefine injury limits for the human brain," Duma said. "To design better sports headgear, we need data on what types of mechanical loads and accelerations actually cause injuries."

ATHLETES

Continued from 1

based studies is a barrier to improved prevention and treatment. We need to learn more about what happens to the brain at the moment of impact and to study other factors, such as the protective values of different types of headgear."

One injury of particular interest to the researchers is concussion. If their monitoring project succeeds, someday coaches will be able to tell from the sidelines if a player is at

SEWELL

Continued from 3

The members of the commission will meet on the second and fourth Mondays of each month during the academic year and each will serve one to three years before being replaced. Commission members for the 2003-2004 year are Benjamin Dixon, Multicultural Affairs; Ellen Plummer, Equal Opportunity; Linda Woodard, Personnel Services; Pat Hyer, Provost's Office; Lanny Cross, Student Affairs; Kim Beisecker, Cranwell International Center; Laura Yu Hickerson, Career Services; Trey Church, psychology; Darleen Baker, political science; Betty Fine, humanities; Michael Two Horses, American Indian Studies; Meredith Katz, sociology; Amer Fayad, plant pathology, physiology, and weed science; Ray Plaza, Residence Life; Lois Berg, Athletic Academic Support Services; Jean Brickey, library; Susanna Rinehart, Theatre Arts; Bill Greenberg, math; Helen Crawford, psychology; Sewell, communication studies; Valerie Hardcastle, science and technology studies and philosophy; Peggy Quesenberry, apparel, housing, and resource management; Mary Madis, University Development; William Dougherty, systems engineering; Devi Gnyawali, management; Kimberly Philpott, Student Life and Advocacy; Hassan Aref, engineering; Brandon Bull, economics and science; Gavin Luter, sociology; Jean Elliott, University Relations; Hayward Farrar, history; Susan Willis-Walton, Center for Survey Research.

OSER

Continued from 3

University of Virginia (U.Va.) and Carilion Health System. The Carilion Biomedical Institute was subsequently established in Roanoke with OSER and the Medical Automation Research Center at U.Va., as affiliated research centers, each receiving \$1 million a year from the institute to develop research concepts to the point where technology or processes could be patented, developed and commercialized by the institute. The goals were enhanced biomedical research at the universities and economic development and improved health care in Southwest Virginia.

The 76 faculty members who have been supported by OSER have carried out 90 research projects in the first four years. They have produced 32 invention disclosures, 13 provisional patents and four regular U.S. patent applications so far, plus 40 papers/79 conference presentations, and have provided research experience to 40 undergraduates and 85 graduate students.

Support from the institute was to continue for five years, but the final year's support will be stretched over three years. In the meantime, faculty members have earned awards from additional sources in excess of \$10 million.

More information is available at www.abc.vt.edu.

Tech hosts conference on academic advising

On Friday, Oct. 31 Virginia Tech will host the state-wide Virginia NACADA Drive-In Conference, a collaborative effort of Virginia Tech's University Academic Advising Center, the Center for Academic Enrichment and Excellence, and the National Academic Advising Association. The conference will be at the Donaldson Brown Hotel and Conference Center from 8:30 a.m. until 3:30 p.m.

The conference is designed to be an economical way to offer access to quality advising professional-development opportunities. The conference will be a one-day, drive-in event including concurrent sessions, keynote addresses and other activities with the goal of enhancing advising knowledge and skills for individuals and increasing effectiveness of advising programs. Norrine Bailey Spencer, associate dean of the Pamplin

College of Business Administration, and Ed Spencer, assistant vice president for student affairs, will open the conference with a session on "Understanding and Working with Millennials." Elizabeth Creamer, associate professor in the Center for Interdisciplinary Studies, will present a concurrent session, "Explaining Student's Resistance to Career Advice: An Interactive Exchange," later in the day.

Professional advisors, counselors, faculty members, administrators, and students working to enhance the educational development of students are encouraged to attend the conference. More conference and registration information is available at <http://www.conted.vt.edu/nacada/> or contact Kimberly Brown (ksbrown@vt.edu, 1-8440) or Karen Sanders (kesanders@vt.edu, 1-5499).

Elvey appointed assistant vice president for facilities

William M. Elvey has been appointed assistant vice president for facilities. Elvey joined the staff at Virginia Tech in September 1997 as director of Physical Plant following a career as a facilities operations officer in the U.S. Navy. Elvey holds both a bachelor's and master's degree in environmental engineering from Rice University and a MBA from George

Mason University. He has most recently served as interim assistant vice president for facilities.

"Bill's strong work ethic and service orientation, as well as his long experience in facilities management, have made him a strong member of the administrative team and I am pleased that he will continue to serve Virginia Tech in this key role," said Raymond Smoot, vice president for administration and treasurer.

ELECTRONIC

Continued from 1

allow the knowledge contained in theses/dissertations to become widely available," Eaton said.

Virginia Tech's effort to train the next generation of scholars to use electronic-communication resources, and to develop software for electronic publication and retrieval of theses and dissertations was supported by the U.S. Department of Education Fund for the Improvement of Post Secondary Education (FIPSE). Over a three-year period, FIPSE contributed over \$200,000. Equipment,

funding, and support have been provided by a number of businesses, universities, and governmental and educational organizations.

The network can be searched by word, author, title, or department. With university libraries having to live with reduced budgets, ETD's cost very little in comparison to volumes of books. ETD's do not take up shelf space, require extra personnel, and funds are not needed for additional copies. ETD's do not need to be bound, and are available months sooner than paper documents.

Over the years, Virginia Tech has helped numerous universities to provide ETD's on line. Currently, 161 universities around the world share their research through ETD initiatives and as members of the Networked Digital Library of Theses and Dissertations.

IAWA

Continued from 3

Lari studied architecture at Oxford and practiced for more than 40 years as the principle of Lari Associates before retiring in 2000. She was president of the Institute of Architects in Pakistan (IAP), the first chairperson of the Pakistan Council of Architects and Town Planners (PCATP), founder and director of the Heritage Foundation, National Project Coordinator for the United Nations Educational, Scientific and Cultural Organization (UNESCO). As UNESCO's project coordinator, she expanded her role in the preservation of important monuments, buildings and cities.

The IAWA received a Women and Minority Lecture Series Grant to bring Lari to Blacksburg. Her lecture on Friday evening was titled "Preserving Pakistan's Cultural Heritage."

As the IAWA gears up for its 20-year anniversary in 2005, the organization is planning a conference and exhibition in Washington, D.C. Plans are being made to circulate the exhibit to high-profile locations around the world. To contribute to the IAWA or for more information about the organization, go to web site <http://spec.lib.vt.edu/IAWA/>.

The IAWA was established in 1985 by the College of Architecture and Urban Studies and the University Library to collect and preserve work by women architects.