

SPECTRUM



VIRGINIA POLYTECHNIC INSTITUTE AND STATE UNIVERSITY

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VOLUME 23 NUMBER 36 FRIDAY, JULY 6, 2001

TODAY'S EDITION
See page 2 for
information on
Jefferson Lab
resources.

SCHEV produces reports on institutional effectiveness

The State Council on Higher Education for Virginia (SCHEV) unveiled its "Reports on Institutional Effectiveness (ROIE)" at its monthly meeting, July 2. In addition to data profiles, the reports contain various measurements common to all Virginia colleges and universities.

The genesis of effectiveness reports began with a recommendation by the Governor's Blue Ribbon Commission on Higher Education. The General Assembly in the 2000-02 Appropriations Act directed SCHEV to develop the reports in concert with colleges and universities.

In its news release SCHEV says, "ROIE makes valuable information on the effectiveness of each public institution more widely available to the public. It also enables students, parents, the institutions, employers, policy makers, and other, to make informed decisions based on their needs and

expectations of higher education." All data for all schools can be found on SCHEV's web site at www.schev.edu. SCHEV will update the reports each July.

The reports contain four parts: mission statements, data profiles, systemwide performance measures, and institution specific performance measures. Systemwide measures are the same for all schools. Institution-specific measures are selected by each school and reflect that schools' unique nature or concerns.

Systemwide Measures—Public Four-Year Institutions:

Academic Quality

The Student Experience

- First-year student retention rate.
- Number of transfer students from two-year colleges.
- Percentage of undergraduate courses with fewer than 20 students; percentage of under-

graduate courses with 50 or more students.

- Percent of Lower-Division Courses Taught by full-time faculty.
- First-time, full-time graduation rate after six years.
- Average time-to-degree for undergraduate Degrees.
- Percentage of living undergraduate alumni who donate annually.

Institutional Efficiency

Facilities and Operations

- Classroom and laboratory space utilization.
- Percentage of E&G spending on instruction and academic support.
- Percentage of management standards met
- Percentage of programs eligible for specialized/professional accreditation that hold such accreditation.
- Debt Service to Expenditures Ratio.

(See SCHEV on 3)

UOIP interim leaders announced

By Jeanne M. Garon

Interim Provost James R. Bohland announced today that Christine Jarchow, currently assistant director for education abroad in Virginia Tech's University Office of International Programs (UOIP), has been appointed interim director of UOIP. Jarchow will lead operations from August 1 to June 30, 2002, replacing current UOIP Director Lyn Gray, who has announced her resignation to pursue overseas opportunities.

"We are very lucky," Bohland said, "that at a time of transition in UOIP, and growth in Tech's international programs overall, we have found someone with Christine's personal qualities, background, and experience in UOIP to lead the office." Jarchow came to Tech in 1999 from the University of Florida, Gainesville, where she served in its Office of Overseas Study. She has a bachelor's degree in business administration and a master's degree in international relations, both from the University of Florida.

Bohland said Jarchow's appointment will allow the office to continue moving forward while the university forms a task force to review Tech's international programming. The task force will be chaired by Robert C. Bates, dean of the College of Arts and Sciences. The outcome of the task force's efforts, Bohland said, will be the "recommendation and implementation of a new structure that better integrates all pieces of Virginia Tech's campus-wide international efforts." Bohland said he foresees committee

(See UOIP on 4)

Glasser receives international recognition

By Lynn Davis

For his lifetime of significant research accomplishments dealing with the structure, properties, and use of natural wood-derived polymers, the American Chemical Society's Division of Cellulose, Paper, and Textiles has honored Wolfgang Glasser, professor of wood chemistry in the Department of Wood Science and Forest Products, with the prestigious Anselme Payen Award.

It is the top award given in the world for outstanding work in the field of cellulose. The distinction included a \$3,000 honorarium and the opportunity for Glasser to give the major research address to his colleagues at a special symposium in San Diego this spring.

With more than 14 patents to his credit, he has explored lignin structure, structure-property relationships of lignin-based polymers, the chemistry of biomass processed by steam explosion, cellulose and cellulose derivatives, xylan, chitin, and cellulose-based composites.

For five years Glasser served as associate dean for research and graduate studies in the College of Natural Resources. He earned undergraduate and graduate degrees in wood science and forest products from the University of Hamburg in 1966 and 1969, respectively, and before joining the faculty at Virginia Tech in 1972, was a post-doctoral fellow at the University of Washington.

Glasser and his wife Heidi jointly received the George Olmsted Award of the American Paper Institute in 1974 and the IUFRO (International Union of Forestry Research Organizations) Scientific Achievement

(See GLASSER on 3)



GOING OVERBOARD Professor Wayne Neufeld, left, assists submarine team members in launching the winning Virginia Tech vessel. (Courtesy J. Rose)

Tech sub wins second straight

By Liz Crumbley

"We joke and have a lot of fun, but we're very professional when it's time to get down to business," said Justin Hlavin, captain of the Virginia Tech Human-Powered Submarine Team. For the second year in a row, Phantom III, the team's hand-built vessel, placed first in the International Human-Powered Submarine Races.

The races, held in June at the U.S. Navy's David Taylor Test Basin in Craterock, Maryland, tested the speed and control of 15 teams of students and their submarines. Although Phantom III didn't clock the fastest times during the five-day races, the sub and the Virginia Tech team proved the most efficient and reliable in

starting and completing the underwater courses. Phantom III is a one-person, propeller-driven sub that Virginia Tech engineering students began designing about three years ago. The submarine's sleek fiberglass hull, designed to be as small as possible to minimize drag, has a vacuum-sealed hull of two thin layers of fiberglass with foam in between—only one-half-inch thick, yet strong enough to withstand water pressure at a depth of more than 40 feet. The Virginia Tech team won the 2000 international races with Phantom III's first showing at a competition.

Hlavin and his 15-member team, which included undergraduates from aerospace and

(See TECH on 3)

Grad student to meet Nobel laureates

By Susan Trulove

Mark Makela, a Virginia Tech Ph.D. student in physics, is one of eight doctoral students selected by Oak Ridge Associated Universities (ORAU) to attend the annual meeting of the Nobel laureates in Lindau, Germany, where he will have the opportunity to discuss his development of a new specialized coating for storage of neutrons, a fundamental subatomic particle.

Nobel laureates in chemistry, physics, physiology, and medicine have convened in Lindau on an alternating basis for one week each summer since 1951 for open meetings with promising science students and young researchers. This seminar provides top science students from around the world a unique opportunity to spend time with key figures in

(See GRAD on 4)

ACTIVITIES

EVENTS

Friday, 6

Summer Arts Festival Program, 6 p.m., Henderson lawn.

Sunday, 8

YMCA Hike, 1:30 p.m., Lancaster House parking lot.

Tuesday, 10

Family/Work/Life Resources Program, noon-1 p.m., DBHCC, conference room C.

Wednesday, 11

"With Good Reason," 7 p.m., WVTF: Topic TBA.
Summer Arts Festival Program, 7 p.m., Squires Studio Theatre.

Thursday, 12

Summer Arts Festival Program, 7 p.m., Squires Studio Theatre.

Friday, 13

Animal Industry Day, 8:30 a.m., Livestock Center.
Summer Arts Festival Program, 6 p.m., Henderson lawn.

Summer Arts Festival Program, 7 p.m., Squires Studio Theatre.

Saturday, 14

YMCA Hike, 10 a.m., Lancaster House parking lot.
Summer Arts Festival Program, 7 p.m., Squires Studio Theatre.

Monday, 16

Salary and Wage Paydate.
Last Day to Drop.

Wednesday, 18

"With Good Reason," 7 p.m., WVTF: Topic TBA.

Thursday, 19

Staff Senate, noon, 1810 Litton-Reaves.

Friday, 20

Summer Arts Festival Program, 6 p.m., Henderson lawn.

New Jefferson Lab resources presented

By Susan Trulove

The Thomas Jefferson National Accelerator Facility is one of the select few institutions of its kind in the world. Known as the Jefferson Lab, the facility "offers capabilities unique in the world for Virginia research universities and microelectronics industries," said Fred Dylla, manager of the free-electron laser (FEL) at the lab, which is located in Newport News.

Dylla and two associates will be on campus on July 18 to discuss the lab's new research capabilities and their plans for a proposed Virginia Nanofabrication Center. Interested individuals are invited to a 9:30 to 11 a.m. meeting in 325 Burruss with the Jefferson staff, whose presentation is entitled "Expanding the Next Generation Light-Source Capa-

bilities at Jefferson Lab: From the Far Infrared to the X-ray Regime."

The visit is being hosted by the Research Division. Call Robert Porter at 1-6747 or e-mail reporter@vt.edu for more details of Dylla's day on campus.

Jefferson Lab's new research configuration pairs a synchrotron x-ray light source and an ultra-high-resolution lithographic system with the FEL. These components, valued at \$68 million, are being donated by a major corporation and DARPA. "They offer a unique opportunity to build capabilities in the state that will benefit research universities and attract companies in the burgeoning microelectronics and nanotechnology fields," said Dylla, who is interested in building a state-wide user commu-

nity for the facility.

The Jefferson Lab is a basic research laboratory built to probe the nucleus of the atom. The lab is managed by a consortium of 53 universities called the Southeastern Universities Research Association or SURA under contract with the Department of Energy. In addition to the exploration of the nucleus, JLab works to educate the next generation in science and to partner with industry to apply JLab's advanced technology. The lab represents a \$600 million investment of the federal government, the state of Virginia, the City of Newport News, foreign contributors, and the U.S. nuclear physics research community. The lab has an annual operating budget of approximately \$70 million.

AOL awards fellowship to MPRG's Robert

By Jenny Frank

In recent years, there has been increased interest in mobile and nomadic computing, with which the user can access the power of an Internet-enabled desktop computer through a portable device. This interest has been fueled by an increase in the number of available home and office wireless networking standards.

Internet service provider America Online (AOL) recognizes the trend in technology towards wireless solutions and the many challenges that need to be met as these technologies are deployed. AOL has awarded a Home Wireless Networking Technologies fellowship to Max Robert, a Virginia Tech electrical and computer engineering (ECE) Ph.D. candidate who is working on wireless access technology with Jeffrey Reed, professor of ECE and director of the university's Mobile and Portable Radio Research Group (MPRG).

AOL is interested in bringing multiple information devices together to share limited resources, including a single broadband connection to the Internet, a printer, and files. Cooperative activities such as multi-player games could also benefit from resource sharing. "If you can do all this wirelessly, it's great because you don't have to run wires and plug things in. It's all very seamless," said Kris Gabor, principal strategic analyst for technology development at AOL.

When different types of wireless networking standards operate in the same area, they operate over a license-free radio spectrum. This can result in interference and degradation in system performance. "We would like to learn more about interference in a residential environment," Gabor said. "How can we expect wireless networking technologies to perform once they begin to proliferate?"

Research by Reed and Robert focuses on mitigating the effect of this interference. "Current research at MPRG into interference between local area networks and other devices offers a fundamental change in the way this problem can be handled," Reed said.

In sponsoring fellowships, AOL hopes to benefit from targeted research at universities. "Tapping into important research work at universities allows us to influence the direction of that research, and it's an efficient use of funds because the work targets problems and areas of interest to AOL," said Mario Vecchi, the company's vice president of technology development.

Conservation Management Institute gets national attention

By Lynn Davis

Last summer an albatross flying far from its normal range brought national attention to the college's Conservation Management Institute (CMI), when Peter Jennings closed his nightly national ABC news program with a clip from Scott Klopfer, CMI division leader for GIS and Remote Sensing. The *New York Times* also ran a feature and the photo.

Klopfer took the shot during a field trip to Fire Island National Seashore off Long Island. During the trip, members of the GIS & Remote Sensing Division collected ground data for a vegetation-mapping project they conducted for the National Park Service. They used a series of aerial photos to identify, digitize, and categorize vegetation types. While heading back to their lab after a long day in the field, they spotted the albatross soaring along the beach amongst a flock of black-backed gulls. The seabird's home is in the oceans of the Southern

Hemisphere, and albatrosses rarely come to shore.

CMI is a grant-funded research center affiliated with the College of Natural Resources at Virginia Tech. Formerly known as the Fish and Wildlife Information Exchange, which was founded in 1991, CMI was established in 2000 after a re-organization to better address multidisciplinary research questions that affect conservation management effectiveness in Virginia, North America, and the world.

Researchers work on projects both independently and in cooperation with faculty members from Virginia Tech and other research institutions to provide support to conservation and management organizations in their efforts to assess, monitor, protect, and manage the earth's renewable natural resources. They have worked with federal, state, and local agencies, international agencies, and non-governmental organizations.

Modern natural-resource management is a complex integration of biological, physical, and social sciences, and the CMI combines each of these fields into a comprehensive approach to conservation. There are eight divisions of the CMI that work together toward this goal: GIS and Remote Sensing, Fish and Wildlife Information Exchange, Military Lands, Human Dimensions, Outreach and Education, International, Invertebrate Research, and Conservation Genetics. Each division brings to natural-resource management a unique array of skills, tools, and perspectives combined with a respect and understanding of the importance of incorporating elements of the other divisions into successful projects.

For more information about each division and for descriptions of recent and current projects, visit the web at <http://fwie.fv.vt.edu>.

Management students devote hours to area businesses

The Department of Management in the Pamplin College of Business recently completed its inaugural internship program for the spring semester as 16 local organizations received a total of 2,000 hours of assistance from Pamplin students. The mission of the internship program is to provide work experiences for Pamplin management students and assistance to local businesses.

"We are extremely pleased with the success of this internship program," program director Stuart Mease said. "Our goal is to grow the program so more local businesses and students

can benefit from these working relationships."

Twenty students worked during the spring semester for the following organizations: Allstate, Blacksburg Country Club, Blacksburg Christian School, Chantilly Lace, Clay Corner Inn, Global Opportunities, John Newcomb Enterprises, Luna Innovations, National Conferences Services Inc., New River Valley Mall, Professional Communications, Roanoke Regional Small Business Development Center, Software Technologies Laboratory, Telajet, Virginia Tech Corporate Research Center, and

YMCA.

"The opportunity to work with the interns from the Department of Management's Internship Program has proven to be invaluable for the Y," YMCA at Virginia Tech Executive Director Barbara Holcomb said. "These interns have brought their enthusiasm and skills to various instrumental, influential projects that have benefited the YMCA this semester."

Organization members interested in participating in the internship program can contact Mease at mease@vt.edu or 1-2397.

EMPLOYMENT

CLASSIFIED POSITIONS

The following classified positions are currently available. More details of these positions, specific application procedures/position-closing dates may be found on the Personnel Services web site at <http://www.ps.vt.edu>. Available positions are also listed on the Job Line, a 24-hour recorded message service. For information on all job listings, call 1-5300. Some of the following positions include state benefits. Positions with numbers beginning with a "W" are hourly/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

Three full-time food-service positions available.

Asbestos/Lead Inspector, 007002Y, Pay Band 4, EHS.

Assistant Manager, 000514H, Pay Band 3, RDP/Owens Food Court.

Associate Director for Prospect Research, 007094S, Pay Band 4, University Development.

Database Administrator, 007777R, Pay Band 5, VBI.

Electronics Technician, 007656R, Pay Band 4, VTTI.

End Processing/Preservation Assistant, 000139Y, Pay Band 2, University Library/Technical Services.

Enrollment Services Specialist, 006928B, Pay Band 3, ECE.

Highway Equipment Operator A, 000843F, Pay Band 2, Physical Plant/Grounds.
Housekeeper, 001181J, Pay Band 1, UUSA.

Housekeeping - Night Crew, 002742H, Pay Band 1, RDP.

Housekeeping Assistant Supervisor, 000552H, Pay Band 1, RDP/Owens Dining Center.

Housekeeping Worker, W022490H, Pay Band 1, RDP.

Information Systems Administrator, 007669M, Pay Band 4, CVM.

Instructional Technology Systems Integrator, 007766S, Pay Band 6, Educational Technologies.

Laboratory Specialist, 007245M, Pay Band 3, Biochemistry.

Laboratory Specialist, 007707B, Pay Band 3, CE.

Laboratory Specialist Advanced, 007735M, Pay Band 4, BSE.

Laboratory Specialist Senior, 007546M, Pay Band 4, CVM.

Multimedia Support Systems Engineer, 001852A, Pay Band 5, Video/Broadcast Services.

Office Services Specialist, 001286F, Pay Band 2, Purchasing.

Painter, 007775F, Pay Band 3, Physical Plant.

Photography Manager, 002415S, Pay Band 5, University Relations/Visual/Broadcast Communications.

Police Officer, 002973Y, Pay Band 3, Police.

Program Support Technician, 002718R, Pay Band 3, Personnel Services.

Programmer Analyst, 001643F, Pay Band 5, Budget/Financial Planning.

Sales/Marketing Manager, 000478H, Pay Band 3, RDP/Personal Touch Catering.

Shopleader Supervisor, 007404H, Pay Band 1, RDP/West End Market.

Snaps Security Guard, 007723Y, Pay Band 1, Police.

Sous Chef, 000940H, Pay Band 3, RDP/Southgate Bake Shop.

Support Center Coordinator, 002633M, Pay Band 5, CVM.

University Editor, 000046S, Pay Band 5, University Relations.

Web Developer, 006718M, Pay Band 5, CVM.

Windows Nt Systems Administrator, 002143Y, Pay Band 4, Library Systems Department.

PART TIME

Dispatcher, W023034R, Pay Band 3, VTTI.
Food Service, W023201H, Pay Band 1, RDP.

Laboratory Specialist, 007779M, Pay Band 3, Biochemistry.

Pharmacist (Relief), W022501M, Pay Band 6, Veterinary Teaching Hospital.

Security Guard, W020470Y, Pay Band 1, Police.

Software Purchasing/Contracts Administrator, W023265S, Pay Band 3, ITA/Seat Management.

Storekeeper, W022291M, Pay Band 2, Veterinary Teaching Hospital.

Web Designer, W022976H, Pay Band 3, RDP/Marketing/Conference Services.

OFF CAMPUS

Human Services Program Specialist, 007644J, Pay Band 4, CPAP.

Program Support Technician, 005585M, Pay Band 3, VCE—King George County.

Radio Announcer, W020800L, Pay Band 3, University Relations/WVTF Radio.

Research Specialist, 007442J, Pay Band 3, CMI.

FACULTY POSITIONS

INSTRUCTIONAL

Accounting/Information Systems. Assistant Professor (Information Technology in Organizations). Contact: Wayne Leininger, 3007 Pamplin (0101). Deadline: Oct. 15.

Accounting/Information Systems. Assistant Professor (Accounting Information Systems). Contact: Wayne Leininger, 3007 Pamplin (0101). Deadline: Oct. 15.

Marketing. Assistant Professor. Contact: Kent Nakamoto, 2016 Pamplin (0236). Review begins July 1.

Materials Science/Engineering. Assistant/Associate/Full Professor (re-advertised). Contact: Norman Dowling, 213 Holden (0237). Review begins November 1.

NON-INSTRUCTIONAL

Virginia Tech Transportation Institute. Software Engineer/Research Associate. Contact: Cindy Wilkinson, 3500 Transportation Research Plaza (0536). Open until filled.

University Unions/Student Activities. Coordinator of Student Support Programs. Contact: Steve Leist, 319 Squires (0138). Review begins immediately.

Center for Power Electronics Systems. Research Scientist. Contact: Fred Lee, 667 Whittemore (0111). Open until filled.

Center for Power Electronics Systems. Research Associate. Contact: Ann Craig, 652 Whittemore (0179).

Virginia Cooperative Extension. Extension Agent, Agriculture/Natural Resources. #112070, Lunenburg Co. Contact: Steve Umberger, 121 Hutcheson (0437). Review begins July 23.

Talent Search Program. Talent Search Coordinator. Contact: Thomas Wilson, Hillcrest Lower Level (0146). Review begins July 15.

Plant Pathology, Physiology, Weed Science. Postdoctoral Associate. Contact: Elizabeth Grabau, 305 Fralin (0346). Deadline is July 15.

Virginia Cooperative Extension. Extension Agent, 4-H Youth Development. #FA640, Page Co. Contact: Robert Ray Meadows, 121 Hutcheson (0437). Review begins July 17.

Management. Undergraduate Advising/Job Placement Coordinator. Contact: Jon Shepard, 2007 Pamplin (0233). Deadline: August 1.

Undergraduate Admissions. Assistant Director, Multicultural Student Recruitment (re-advertised). Contact: Bonnie Lucas, 201 Burruss (0202). Deadline: July 20.

SCHEV

Continued from 1

Faculty Support and Productivity.

- Research and public service expenditures per full-time faculty.

- Student credit hours taught per FTE faculty.

Virginia Tech institutional measures:

- Total research expenditures as reported to the National Science Foundation.

- Number of invention disclosures made in a reporting year as defined by the Association of University Technology Managers (AUTM).

- Number of participants in credit-bearing continuing professional and graduate courses, including K-12 teachers pursuing certification.

TECH

Continued from 1

ocean engineering (AOE), mechanical engineering, materials science and engineering, biochemistry, and history, made several modifications to the submarine this year. They removed the pointed nose from the hull and mounted a clear dome to give the pilot better control and visibility, molded new fins, and installed a more comfortable and efficient propulsion system.

During the competition, the Virginia Tech team realized that Phantom III's speed needed some improvement. Their faculty adviser, AOE Professor Wayne Neu, encouraged them to borrow a propeller from Scuba-Doo, a sub built by a team from Wheaton, Maryland. With the new propeller, Phantom III's speed increased to more than five knots an hour with Hlavin piloting, and his teammate Dotty McDowell set a new

- Customers served per FTE extension faculty.

- Contribution of the Cooperative Extension/Agricultural Experiment Station to the total farm income.

- Number and percentage of undergraduate students participating in leadership experiences determined to yield leadership skill gains.

- Number and percentage of undergraduate students participating in formal experiential learning situations, including service learning, internships, and cooperative education.

- Credit rating of the institution based on comprehensive analyses of financial data and stability.

- Total library expenditures as collected by the Association of Research Libraries divided by the number of full-time equivalent students

GLASSER

Continued from 1

Award in 1986. He currently serves on the editorial advisory boards for *Holzforschung*, *Cellulose Chemistry and Technology*, and the *Journal of Applied Polymer Science*. Glasser was recently named editor-in-chief of the journal *Cellulose*.

More than 50 students and research associates have completed thesis and research studies in his laboratory, resulting in more than 200 publications, four edited books, and 14 patents. At Virginia Tech, Glasser established the Biobased Materials Center as a Technology Development Center of the state's Center for Innovative Technology (CIT), and he participates in the work of the Wood-Based Composites Center as a researcher and member of the Steering Committee. He has also served as an external examiner for dissertations and graduate committees in Europe, Scandinavia, Malaysia, Japan, Australia, and Africa.

Glasser holds memberships in the American Chemical Society, most recently serving as councilor for the Cellulose, Paper, and Textile Division; the Bio/Environmentally Degradable Polymer Society (BEDPS); Sigma Xi; the Society of Wood Science and Technology; and the Technical Association of the Pulp & Paper Industry.

He has also served as a committee member and panel chairman of the Committee on Renewable Resources for Industrial Materials (CORRIM) of the National Academy of Science from 1974-76.

women's human-powered sub record of 4.3 knots.

The Virginia Tech team's success two years in a row has to do with more than the design and modifications of Phantom III, Hlavin says. "I believe the key to our success is the time we spent testing and diving," he said. The team tested the sub in the Florida Keys, where they practiced racing and piloting the boat from the surface to the bottom.

They also practiced diving without the boat. "To do well in the competition, we have to be expert scuba divers," said Hlavin, who became a certified diver at the age of 12.

During the coming school year, the team wants to modify Phantom III to house two pilots so that Virginia Tech can go for the two-person world speed record. They also hope to build a Phantom IV in time for the 2002 races.



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.

Spectrum is a non-profit publication of the Office of University Relations; Lawrence G. Hincker, associate vice president for University Relations; David Nutter, director of college and media relations.

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Electronic Spectrum: <http://www.unirel.vt.edu/spectrum/>

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Computer-science student wins IBM challenge

By Sally Harris

Brent Metz, a Virginia Tech junior in computer science, won IBM's one-time "Cool Blue VoiceXML Challenge" in April.

Metz received the grand prize of \$25,000 plus opportunities for internships in the VoiceXML competition. VoiceXML, the company said in a news release, is a new standard for using the voice to browse on-line information.

Metz used IBM's WebSphere VoiceServer Software Developers Kit (SDK) that incorporates VoiceXML technology to create a nutritional-planning tool in which users follow simple voice prompts to learn more about nutrition and plan their diet," the IBM release said.

"What impressed me about Brent's program was how smoothly he integrated so many complex components," said Peter Lefkin, executive director of the VoiceXML Forum. "The application had a crisp, professional feel, as well as the type of user interface that encourages users to explore all of the layers of the program. Obviously Brent is a talented programmer, and I look forward to his future contributions to the VoiceXML community."

Metz is going to Virginia Tech on a full scholarship from two other contests he has won. He won \$20,000 for Outstanding Technical Achievement from ThinkQuest in 1996 and a \$15,000 first-place award from

ThinkQuest in 1997.

Metz won the grand prize (top award) in the international IBM challenge that had 1,800 applicants. He said the fact that Virginia Tech has won this award and also the programming team contest shows the quality of programming work being done at the university.

As a result of his win, Metz has been offered and has accepted an internship with IBM in California this coming summer. Called the "Extreme Blue" internship, it is available to only 40 or 50 students each year, he said. "I'm interested in seeing what the big corporate culture is like so I can get a feel for whether it's right for me or not," he said.

Ford donates \$10,000 to car team

By Liz Crumbley

Ford Motor Co. donated \$10,000 to help the Virginia Tech Formula SAE Car Team get ready for this year's international competition, May 16-19 in Pontiac, Michigan.

The Virginia Tech team has participated in the Society of Automotive Engineers Formula Car competition since 1988. Each year, more than 100 teams of engineering students from the U.S. and several other nations design and build small racing cars according to Formula SAE rules. In 1991, the Virginia Tech team won first place.

During the 2001 competition, the Virginia Tech team placed 34 out of 126 teams in overall scoring and placed fourth in presentation.

"Ford's support this year was critical to our team," said Bob Comparin, retired professor of mechanical engineering (ME) at Virginia Tech and the team's adviser. Building a car for the competition entails buying engines, tires and other equipment.

"Ford is dedicated to supporting student competition in vehicle design events," said Dan Clatterbuck, a Virginia Tech alumnus and member of Ford's Road Load Engineering Team. "Students gain access to better machinery, facilities, support mechanisms, and exposure to industry practices and techniques. And Ford gains valuable exposure to students who are the engineers of the future."

Approximately 40 Tech engineering students were on this year's team, including 32 seniors who worked on the car for their capstone design projects. "The emphasis is on design, not just racing," Comparin said.

Newly formed LEPN holds kick-off event

The newly formed Laboratory Employee Professional Development (LEPD) Network held its kick-off event May 23.

The event included a one-hour introductory program followed by a five-hour good-laboratory-practice (GLP) certification program. During the introductory program, Dean Robert Bates from the College of Arts and Sciences, Dean Peter Eyre from the College of Veterinary Medicine, and Assistant Vice President Linda Woodard discussed the value of laboratory technicians and laboratory employees to the university and the important contributions they make in support of research activities.

Delbert Jones, president of the Staff Senate from the College of Veterinary Medicine, provided an overview of the Laboratory Employee Professional Network and its objectives. Fol-

lowing the presentations, participants were asked to provide input regarding potential networking and professional-development activities that would benefit the laboratory employee community.

The GLP certification program included an overview of GLPs and their importance, personnel responsibilities, training records, standard operating procedures, equipment SOP's and records, recording raw data/documentation, and labeling requirements.

The LEPDN was created to support laboratory employees by sponsoring programs of general interest to laboratory technical personnel with guest speakers, workshops; providing opportunities for training, certification and licensure in specialized areas; identifying opportunities to share resources, expert knowledge and skills from different parts of campus; iden-

tifying the role of laboratory technical personnel in the university's drive to rank among the nation's top 30 research institutions; and providing mentors for new laboratory technical personnel.

A leadership team composed of members representing most colleges with laboratory research developed a charter for the network and is responsible for the selection and implementation of activities. Members include Rebecca Barlow, Dick Harshberger, Jones, Laura Link, Julie Petruska, Suzanne Piovano, Kathryn Reynolds, Steve Van Aken, and Woodard. The LEPDN is sponsored by Personnel Services and University Leadership Development.

For more information, contact University Leadership Development.

GRAD

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the scientific community as well as meet students from other parts of the world with similar or complementary scientific interests.

Makela was selected for his work in nuclear physics on the Ultra Cold Neutron 'A' Correlation (UCNA) experiment at Los Alamos National Laboratory (LANL). The UCNA experiment takes a high-precision look at neutron-beta-decay asymmetries; the values of these asymmetries are used to test the current fundamental models of physics.

Makela said, "Theoretical physicists predict that polarized neutrons decay asymmetrically—more electrons are emitted one direction than the other. Our experiment will give the most precise measurement of this asymmetry to date, which can be used to guide theorists to a better model of our physical world."

This experiment uses neutrons, which are cooled to near absolute zero (Ultra Cold Neutrons) and then polarized in a very strong magnetic field. The particles are polarized when their spins are aligned, like compasses in the earth's magnetic field. "At these low temperatures, neutrons can be contained in bottles, bouncing around like superballs until they decay—each becoming a proton, electron, and anti-neutrino," Makela said. "This experiment detects the electron emitted from the decaying neutron and logs its direction and energy."

Makela's main contribution to this experiment is the development of diamond-like carbon-coated guides which will transport the polarized UCN through the experiment. The guides

have been developed at Virginia Tech using a wide range of the campus' available resources. Makela's UCN guides are quartz tubes with an amorphous carbon film deposited on the inside using a pulsed-laser system developed at Virginia Tech. "Films made with this process are as dense as diamond and extremely smooth, with roughness of less than a nanometer," he said.

His films appear to be the best non-metallic neutron reflectors in the world. Makela will be presenting work done on these films at several European laboratories this year, where they are being considered for use in other UCN experiments.

Makela's research is part of the UCN project at LANL, which is sponsored by the Department of Energy. The Virginia Tech part of this project is funded by the National Science Foundation.

"I would like to thank my adviser, Dr. (Bruce) Vogelaar for nominating me for this award and taking me as a graduate student," Makela said. "I would also like to thank Dr. (Robert) Hendricks and Dr. (Carlos) Suchicital of MiCroN and the materials science and engineering department for letting me use their laser system and for their help in making this project possible and Dr. (Gary) Pickrell for his technical input."

Last year was the first year the United States participated in the Nobel Laureate Travel Grant Awards. ORAU managed the program for U.S. Department of Energy (DOE), who funded participation by 30 students.

With the sponsorship of LabBook Inc., Alberto de la Fuente will also meet with the Nobel Laureates in Germany. De la Fuente, a Ph.D. student in the Free University of

Amsterdam, is doing research at the Virginia Bioinformatics Institute at Virginia Tech under the supervision of Pedro Mendes, research assistant professor. De la Fuente's research is on the subject of "Metabolic Control of Hierarchical Systems and Dynamics of Genetic and Metabolic Networks."

Mendes said, "Our research is about the interactions between genes, proteins, and small biochemical compounds in the cells (metabolites). Traditionally, genes have been studied in isolation from proteins and metabolites, but new developments in genomics, such as DNA chips, are making it possible to study genes in context."

UOIP

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recommendations being made during fall 2001 followed by any implementations during spring 2002.

Beginning with Jarchow's appointment, UOIP staff member Jeannie Bonner will assume the role of interim assistant director for education abroad.

Judith Shrum, chair of the Department of Foreign Languages and Literatures, will assume a provisional role as UOIP faculty liaison. A portion of Shrum's work, according to Bohland, will involve UOIP's efforts to develop its strategic plan. Shrum will provide continuity on faculty-oriented matters such as grants to promote more international content in the curriculum. She will also chair faculty committees such as the University Council on International Programs and the Center for European Studies and Architecture (CESA) Advisory Committee.

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