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Swiger, Distler to address Fall Commencement participants

By Sherri Box

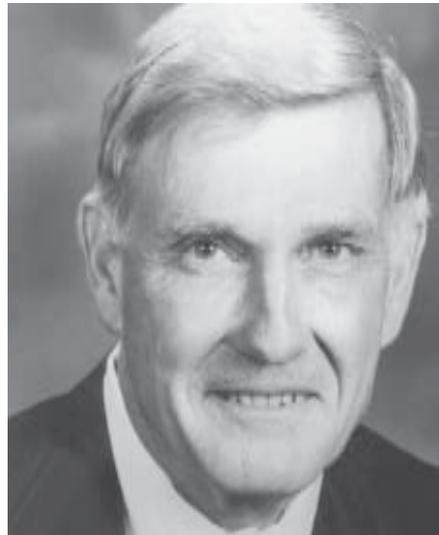
The university will celebrate its Fall Commencement for graduate and undergraduate students in Cassell Coliseum the weekend of December 20 through 21.

Paul Antonie (Tony) Distler, alumni distinguished professor and the director of the School of the Arts, will be the keynote speaker at the Graduate School ceremony beginning at 2:30 p.m. Friday, Dec. 20.

L.A. "Andy" Swiger, dean of the College of Agriculture and Life Sciences and the longest-serving agriculture dean in the southern region of the U.S., will be the keynote speaker at the undergraduate ceremony to be held on Saturday, Dec. 21, beginning at 10 a.m.

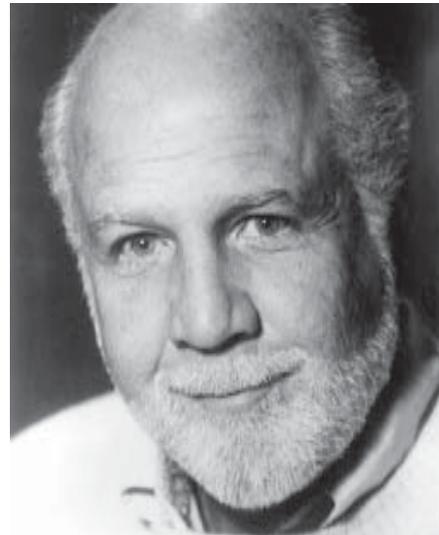
University officials expect approximately 1,059 candidates to participate in the undergraduate ceremony and 1,026 candidates to participate in the graduate ceremony. There are no individual college ceremonies in the fall.

Since joining the university in 1967, Distler has received the university's W.E.



SWIGER

Wine Award for Teaching Excellence, has published on arts administration and vaudeville in a variety of journals and books, and has hosted the 13-part television series "A Better Mouse-



DISTLER

trap" that was syndicated on numerous PBS stations. He is a noted teacher, performer, director, scholar, television host and producer. His voice can be heard on area radio and television

ads, and he is the voice of Lane Stadium's pre-game and half-time programs.

Swiger joined the faculty of Virginia Tech in 1980 as head of the Department of Animal Science. He served as director of the Virginia Agricultural Experiment Station before being named dean of the College of Agriculture and Life Sciences in 1992. During his tenure as dean, the college's biotechnology program has earned national respect, Tech's agricultural research has risen to seventh in the nation and the college has broken new ground in food-production research.

Tickets are not required for either ceremony. New security procedures will subject all bags and purses to search before entry to the coliseum. Families and guests should arrive early and expect a delay entering the building.

Students may pick up Fall 2002 graduation-accommodation packets for family and/or friends who need accommodations due to a disability or impaired mobility at the Dean of Students Office in 152 Henderson Hall.

Report gives high rankings to Interior Design Program

By Sarah Newbill

The College of Architecture and Urban Studies (CAUS) was ranked in the top-15 schools of its kind by the 2003 *DesignIntelligence*® report.

Debuting at fourteenth, the college ranks equally with MIT and Texas A&M. The college also placed 23rd in faculty teaching awards, placing above both Princeton and Yale Universities. The Interior Design Program, housed in the college, has moved into the top 10 of Foundation for Interior Design Education Research-accredited programs in the nation, ranked by the same report. The program moved up from eleventh last year.

Each year, *DesignIntelligence*® and Counsel House Research conduct surveys,

in conjunction with the *Almanac of Architecture & Design*, to determine the best schools and colleges for architecture, and the best interior-design programs in the United States, based on the student's professional preparedness. The architecture-school study is based on the hiring experiences of 148 leading architecture firms across the nation. Firms throughout all regions and in each market sector, including commercial, health care, education, hospitality, residential, institutional, laboratory, sports facilities, and office buildings, were contacted this past summer. Respondents were asked to indicate which NAAB (National Architectural Accrediting Board) accredited programs (in the past five years) produced graduates most prepared for professional practice.

This year the interior-design survey

focused on the hiring experiences of 59 firm owners, partners, and/or principals of private-practice interior-design and architecture firms, who ranked the best schools (over the past five years) also based on the student's professional preparedness. This is the fourth year of the survey.

The full report can be found in *DesignIntelligence*® and the *Almanac of Architecture & Design*. *DesignIntelligence*® is monthly industry newsletter sponsored by the Design Futures Council, which is a think-tank of industry leaders dedicated to anticipating and preparing for future trends in architecture and design. The *Almanac of Architecture & Design* is published annually. The most current fourth edition will be available at retailers world-wide in January.

Achievement earns Di Ventra fellowship in IOP

By Sally Harris

His "very high level of achievement in physics and outstanding contribution to the profession" have earned Massimiliano Di Ventra of the Department of Physics the title of fellow of the Institute of Physics (IoP).

Fellowship is the senior class of membership in IoP, a leading international professional body and learned society that promotes the advancement and dissemination of knowledge of and education in pure and applied physics.

In 2001, Di Ventra received a National Science Foundation (NSF) Nanoscale Exploratory Research grant of \$85,000, which served as seed money to explore the nanoscale world through computer simulations. He then received a NSF Faculty Early Career Development Program (CAREER) Award for \$300,000 over five years. That grant allows him to use newly developed atomic-scale first-principles approaches to study

(See *ACHIEVEMENT* on 2)

Unique eye-injury prediction model developed

By Liz Crumbley

Each year, about 2.4 million people in the U.S. sustain some type of eye injury and about 30,000 are rendered legally blind. A computer model developed at Virginia Tech can be used to accurately predict the probability of injuries to the eye.

"We've developed a model that can be used, for example, by airbag manufacturers and car companies to predict the probability that a given airbag deployment will rupture the eye if contact occurs," said Joel Stitzel, a Ph.D. student in mechanical engineering (ME) and principal developer of the model.

In fact, the model can be used to predict the probability of any type of eye injury, said Stefan Duma, director of the Virginia Tech Impact Biomechanics Laboratory and Stitzel's major professor. "Joel's research



breaks new ground in investigating eye injuries. This is the first model that can produce truly accurate eye-injury predictions."

The model can investigate a range of injury-causing objects as diverse as military

goggles, airbags, BB guns, baseballs or plastic hair bands—"any object that comes in contact with the human eye," Duma said.

The model was designed by Stitzel, Duma and ME student Joe Cormier in collaboration with Ian Herring of the Virginia-Maryland Regional College of Veterinary Medicine.

"The way fluids and structures interact in this model is an approach that could be used to predict injury and rupture in certain other parts of the body," Stitzel said. "For example, it could work with the vasculature—the system of blood vessels—or any of the fluid-filled organs, such as the heart, kidneys or bladder."

"This model sets the stage for future research," Duma said. Accurate predictions of injury probabilities can lead to the design of better airbags, goggles and other safety equip-

(See *UNIQUE* on 2)

Board of Visitors Calls Special Meeting

The Virginia Tech Board of Visitors has called a special meeting on Sunday, Dec. 15, at noon, in 2100 Torgersen Hall. The board will discuss university policy pertaining to the recruitment, admission, and support of students and employment practices.

ACTIVITIES

EVENTS

Friday, 13
Exams Begin.

Saturday, 14
Women's Basketball, 6 p.m.: At Liberty.
Men's Basketball, 7 p.m., Cassell Coliseum: Morgan State.

Monday, 16
Pay Date for Faculty and Staff Members.
University Council meets, 3 to 5 p.m., 1045 Pamplin.

Tuesday, 17
Alumni Trip to Cuba Information session, 5 to 6 p.m.,
Montgomery Floyd Regional Library, Blacksburg branch.

Thursday, 19
Staff Senate, noon, 1810 Litton Reaves.
Exams End.

Friday, 20
Graduate Commencement, 2:30 p.m., Cassell Coliseum.
International Graduation Reception, details TBA.

BULLETIN

Cuba's Built Heritage information offered

Alumni and friends of Virginia Tech are invited to learn about an opportunity to travel to Cuba to study the island's rich architecture, plazas, castles, and culture. An information session will be held Tuesday, Dec. 17 from 5 to 6 p.m. and Saturday, Jan. 18 from 11 a.m. to noon at the Blacksburg branch of the Montgomery Floyd Regional Library. For more information, call Jodi Vandervort at 1-7660 or e-mail jodilynn@vt.edu or Joseph Scarpaci at 1-7504; e-mail scarp@vt.edu.

Calendar features 'Cool Women of Virginia Tech'

Some of the most interesting women of Virginia Tech have been gathered in the "2003 Cool Women of Virginia Tech" calendar. Published by the Women's Studies Program, the calendar highlights women's contributions to the university community.

The women featured in the calendar are all ages, shapes and sizes and embody a love of ideas, creative achievement and "true grit." Not to be confused with the "Women of Virginia Tech" bikini calendar, this calendar includes features such as the first

women in the Corp of Cadets in 1973 and the current Virginia Tech women's basketball team.

Developed to honor women for their intellect, imagination, dedication and determination, the calendar also offers facts about women's history at Virginia Tech, as well as standard 2003 Virginia Tech dates. The calendar will cost approximately \$13 and will be sold at the Volume II Bookstore, the Women's Center and the Women's Studies Program Office in 131 Lane Hall.

For more information, call Martha McCaughey at 1-5812.

Radtke, local business receive award for climate-change research

By Lynn Davis

Phil Radtke, assistant professor in the College of Natural Resources' forestry department, and Britt Boucher, president of Foresters Incorporated, have received an outstanding achievement award from Virginia's Office of Science and Technology for their work related to global climate change.

The office recently recognized their collaboration and success in securing U.S. Department of Energy's Small Business Technology Research (STTR) Phase I funding, which will enable the two researchers to improve ways to

measure carbon stored in forests of the Eastern U.S. Such measurements are needed to monitor and offset the change that is occurring due to the burning of fossil fuels.

Radtke, co-principal investigator representing Virginia Tech, and Boucher, principal investigator representing Foresters Incorporated, have received \$100,000 in STTR funding to develop and test methods for measuring canopy structure and above-ground biomass with commercially available 3-D laser scanners.

A laser-scanning instrument will be used to make 3-D measurements in research forests

across the eastern U.S. Estimates will be made of a leaf area index (LAI), the spacing of the forests, and the biomass of leaves, tree trunks and large branches. The estimates will be compared to traditional measurement methods.

"New tools and methods are needed for measuring carbon stored in forests more accurately, less expensively, and faster than traditional measurement methods. A commercially available 3-D laser-scanning instrument may help, and provide faster and more accurate measurements of above-ground carbon stored in the wood and leaves in the eastern U.S.,"

Radtke said.

STTR funding is used to help transfer technology or research from educational institutions to the business sector. Phase I funding is generally used for helping to prove that a particular technology or research can be used successfully by businesses. If Phase I is successful, Phase II funding can be sought that will help businesses implement the technology or research.

Radtke can be contacted at pradtke@vt.edu or 1-8863.

Geyer will head Department of Agricultural and Applied Economics

By Jennifer Sills, University Relations intern

Leon Geyer, professor of environmental and agricultural law, will assume the leadership of the Department of Agricultural and Applied Economics on Jan. 1, according to Andy Swiger, dean of the College of Agriculture and Life Sciences.

Geyer will replace 10-year Department Head Lester Myers, who is retiring.

"Dr. Geyer has outstanding qualifications based on his productive years of teaching, outreach, and research; his leadership role in the academic programs of the department; and

his extraordinary record of participation in college and university governance," Swiger said.

Geyer, who joined the faculty in 1981, conducts research in law and economics, working in areas such as the environment, commercial law, business organization, taxation, and tort problems of the farm and commercial sectors. Geyer retains a production interest in agriculture with a partnership interest in Indiana. He also teaches in and directs the state's largest tax-practitioners workshop.

Before coming to Virginia Tech, Geyer worked as an economist and attorney for U.S.

Department of Agriculture (USDA) and for the House Committee on Agriculture in the U.S. Congress. He is currently adviser to the university's undergraduate honor system, past president of the Faculty Senate and past president of the American Agricultural Law Association. He is a past recipient of the outstanding research award of the American Agricultural Law Association.

Myers led the department since joining the faculty at Virginia Tech in 1992. "Dr. Myers' outstanding leadership has been instrumental in

maintaining the department's national reputation for excellence," Swiger said.

During Myers' tenure as department head, the department has solidified its position as a highly valued resource for state-wide and national commodity groups, government officials, and others. Myers provided leadership for the development of a Ph.D. program jointly administered with the university's Department of Economics and led the department to membership in the School for Public and International Affairs, Swiger said.

ACHIEVEMENT

Continued from 1

some of the most fundamental issues in transport in molecular wires that can have major impact in the development of molecular electronics. These include current-induced forces, local heating and heating dissipation, electric-current fluctuations, and interference effects at the molecule-leads contacts.

Di Ventra also works with experimentalists to advance the new technology and provide new input for future developments in molecular electronics. By providing theoretical models, Di Ventra will help shorten the experimental time needed for selecting materials and

structures with specific transport properties.

Di Ventra came to Virginia Tech in the summer of 2000. In addition to holding the position of research assistant professor at Vanderbilt, he has been a visiting scientist at the IBM T.J. Watson Research Center since 1998. Di Ventra also received the Ralph E. Powe Junior Faculty Enhancement Award and the New Century Technology Council Innovation Award, among others.

Di Ventra is a co-editor of the book *Nanoscale Science and Technology*, scheduled for publication in 2003, and has written a number of book chapters and articles for professional publications.

UNIQUE

Continued from 1

ment, he said.

Stitzel's presentation of the research won first place in the student paper competition during the 46th Stapp Car Crash Conference in November.

The Stapp conference, founded by the late John Paul Stapp and sponsored by the Society of Automotive Engineers and a number of universities, is the premier forum for presentation of research in fields that advance the knowledge of land-vehicle crash-injury protection. Stapp was an Air Force physician who pioneered research in human tolerance to acceleration and crash

impacts, often acting himself as the test subject.

"It's extremely difficult to have a paper accepted by this conference," Duma said. "Receiving the top paper award was a great accomplishment for Joel, and places Virginia Tech on the international map for automobile safety research."

Stitzel expects to complete his doctorate in 2003 and is interested in working in the field of automotive safety. "I would really like to perform more advanced modeling of the tissues in the human body," he noted. "Computational models of the body are probably going to replace automotive crash test dummies one day, and I'd like to be at the forefront of that work."

CAMPUS UPDATE

Study shows improving water use possible in growing corn

By Stewart MacInnis

Farmers growing corn in the mid-Atlantic region will have a new tool to help them identify appropriate cultural practices for the types of soils in their fields, thanks to research conducted by researchers from Virginia Tech and Colorado State University.

"Soils vary in their ability to hold water," said Mark Alley, professor of crop and soil environmental sciences at Virginia Tech. "If a farmer knows the water-use efficiency of the soils in his field, he has a very important clue on how to manage that field."

Alley developed a formula for accurately determining the water-use efficiency in typical soils in the region. The results of his research were published in the May-June edition of *Agronomy Journal*. Co-authors of the article are Jon Roygard, a Virginia Tech research associate, and Raj Khosla, assistant professor of soil and crop science at Colorado State University.

Water is the main limiting factor for non-irrigated corn production in the region. The

article examines the relationship between no-till corn yields and soil-water availability for the purpose of improving water-use efficiency.

Total rainfall in the mid-Atlantic region is generally adequate for corn production, Alley said, but the amount of rain falling on particular fields varies widely. Complicating the hit-or-miss pattern of rainfall is the fact that some soil types have a greater ability to hold water than others.

The research reported in the *Agronomy Journal* article measured the differences in captured precipitation, crop yields, water used by the corn crop, and water lost to drainage. The research was conducted during the 1998 and 1999 growing seasons in a geologic area near Fredericksburg known as the northern coastal plain of Virginia.

"Water lost to drainage and runoff is not only lost to the corn crop, but it can also decrease surface and groundwater quality by transporting nutrients and soil into these waters," Alley said.

Soils with higher clay contents and greater capacities to retain water produced higher yields, had less runoff and drainage losses, and had higher water-use efficiencies than sandy soils with lower capacity to hold rainfall. The research showed that certain soils can have drainage losses during the growing season.

"These soils that can have drainage losses must either not be planted in corn, or they must be carefully managed," Alley said.

One appropriate method of managing such a field is by using no-till techniques. With no-till practices, farmers disturb the soil as little as possible when planting and tending their crops.

The data from the project provides the basis for computer models that can project the water-use efficiency of corn grown in many different situations in Virginia and surrounding states. Improving the efficiency of water use in corn production can influence the economic and environmental impact on hundreds of thousands of acres in the region, Alley said.

Competition strengthens chef's skills

By Kafia Hosh University Relations intern

Who would have thought the culinary arts could be such a competitive sport? Virginia Tech's senior executive chef for Owens Dining Center, Jud Flynn, is proof that competition is an eminent aspect of the culinary arts.

Over the years, Flynn has collected a number of accolades including 30 culinary medals as well as a silver medal at the 2000 International Culinary Olympics held in Erfurt, Germany. He is also the only approved American Culinary Federation culinary judge in Virginia, and is one of just 100 in the nation.

Flynn said competing inspires him to expand his skills as a chef and that it is a good way to exhibit his skills among his peers.

During competitions, Flynn would have to display 13 intricate plates of food. "Really what you do... is a lot of artistic display work, where no one is actually going to eat it, but you're judged on all the fundamentals that it takes to produce it," he said. "We're taking it to the next level."

Flynn began competing nationally about seven years ago. He said that competing is a self-rewarding experience that has contributed to his accomplishments as a chef. "It takes a lot of brainstorming perfecting your ideas," Flynn said. "Because you're going to try to come up with something unique, that you've only seen bits and pieces of this idea used over the last few years."

Flynn said his passion for competition and thinking of unique ideas has inspired him as a chef. "We come up with purely eclectic recipes, and entrees, and side items, that we haven't done before, because we don't want to reiterate some of the same things," he said.

He also noted that cooking trends change every four years and usually stem from various concepts brought up at competitions. "Our ideas now on presentational stuff are getting to be more refined, cleaner work, smaller portions, bolder, stronger, eclectic flavors. So everything

(See COMPETITION on 4)

Hallerman's research genetically fingerprints wildlife

By Hillary Fussell,
University Relations intern

Eric Hallerman's genetic-fingerprinting research is providing critical information needed for the management of black bears and other animals in the wild. Hallerman, an associate professor in the Department of Fisheries and Wildlife Sciences and the sole geneticist in the College of Natural Resources, has been conducting research in the field of genetic fingerprinting since 1984.

Genetic fingerprinting is a procedure that begins with the extraction of DNA from a research subject. The DNA is then amplified to identify specific target sequences for that particular subject by placing it into a PCR (polymerase chain reaction) machine. The machine heats the target molecules causing denaturation, which provides double the number of templates for the next cycle. Once the DNA is amplified substantially, it is transferred into a gel and

detected by gel electrophoresis and staining (also known as DNA sequencing). Once these sequences are characterized, geneticists can then assess into which population or species a given subject fits.

Hallerman has genetically fingerprinted species such as the black bear, walleye, Madagascar fish eagle, and the bacterium *E. coli*. In collaboration with wildlife Professor Michael Vaughan, Hallerman helped identify subspecies of the American black bear to facilitate protection of certain populations belonging to endangered subspecies. In addition, Hallerman and Vaughan are studying the population of black bears near the Great Dismal Swamp to identify possible effects on the population if federal highways are widened through their habitat.

The walleye is a fish that once thrived in Virginia's New River. When the population decreased, walleyes were brought in from Minnesota with hopes of regenerating a stable popu-

lation. However, walleyes native to the New River grow up to four times larger than those from Minnesota. Hallerman, along with fisheries and wildlife Professor Brian Murphy, genetically fingerprinted the population of walleyes in the New River to determine which individuals were native to the river. The native walleyes were then spawned in a hatchery to create a population of fish that have the same genes as the native walleyes.

Hallerman, along with fisheries and wildlife Professor James Fraser and post-doctoral student Melanie Culver; Rick Watson of the Peregrine Fund; and Ruth Tingay of Nottingham University determined that "helper" males attending nests of Madagascar fish eagles were not just helping to feed the young, but also breeding. Because a larger number of individuals are involved in breeding, loss of genetic variation is less likely to threaten the viability of the species. The species for research are chosen

(See HALLERMAN'S 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

Four full-time food-service positions available.
Animal Care Supervisor, 006998M, PB 4, VTH.
Architect, 008048F, PB 5, Physical Plant.

Electrician Senior, 002219F, PB 3, Power Plant.

Fiscal Technician Senior, W022963F, PB 3, University Bursar.

HVAC Installation/Repair Senior Technician, 000700F, PB 4, FMU.

HVAC Installation/Repair Senior Technician, 000700F, PB 4, FMU.

HVAC Technician, 008001H, PB 3, RDP.
Lab Specialist Senior, 007743M, PB 4, PPWS.

Lab Technician, 008042K, PB 4, VBI.

Laboratory Specialist, 007474M, PB 3, Biochemistry.

Pre-prep Supervisor, 000394H, PB 2, RDP.

Small Animal Speciality Medicine Technician, 002872M, PB 3, VTH.

Unit Manager, 007961H, PB 5, RDP.

PART TIME

Css/Surgery Technician, W022190M, PB 2, VTH.

ICU Veterinary Technologist Large Animal, W022218M, PB 2, VTH.

Laboratory Technician Senior, W022172M, PB 2, VTH.

Large Animal Husbandry, W022155M,

PB 1, VTH.

Research Specialist, 008012M, PB 3, Entomology.

OFF CAMPUS

Laboratory Specialist, 007687B, PB 3, Occoquan Laboratory.

Nursing Supervisor, 006726M, PB 3, CVM.

Program Support Technician, 007912G, PB 3, NVC.

Research Specialist, 004529M, PB 3, Tide-water AREC.

FACULTY POSITION

INSTRUCTIONAL

112621 Assistant Professor of Equine Internal Medicine. Marion duPont Scott Equine Medical Center, Virginia-Maryland Regional College of Veterinary Medicine. Contact: G. Frederick Fregin, Marion duPont Scott Equine Medical Center, Virginia-Maryland Regional College of Veterinary Medicine, Box 1938, Leesburg, VA, 20176.



VIRGINIA POLYTECHNIC INSTITUTE
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Center for Organizational and Technological Advancement appoints three fellows

By Susan Felker

Senior Fellow for Biomedical, Bioengineering, and Health Projects and Executive Director for Virginia Tech's Northern Virginia operations James Bohland, Veterinary Teaching Hospital Director Robert A. Martin, and Civil War scholar James I. Robertson Jr., have been appointed fellows of the Center for Organizational and Technological Advancement (COTA).

Announcement of the appointments was made by J. Douglas McAlister, director of Outreach Program Development, who said, "These distinguished scholars have made outstanding contributions to their fields while at Virginia Tech. Their expressed willingness to make their knowledge and experience available to a wider audience through COTA will strengthen the university's outreach efforts."

Virginia Tech established COTA in 1994

to foster economic-development and continuing-education initiatives with special emphasis on connecting university research to the needs of Virginia's industrial, commercial, governmental, academic, and professional organizations.

COTA's primary objective is to help Virginia's organizations and individuals compete in an information-driven global economy. The center works with Virginia Tech faculty members to develop programs at the Hotel Roanoke and Conference Center and assists with small grants. COTA projects are administered through Outreach Program Development, which is part of University Outreach and International Affairs (UOIA).

"COTA Fellowships are designed to connect distinguished scholars and their research to many external audiences," said UOIA Associate Provost John Dooley. "By using a

multidisciplinary perspective, COTA fellows focus university resources on specific real-world problems and areas where university expertise can make a distinct contribution." COTA fellows are responsible for developing and implementing lifelong learning and executive management programs at the Hotel Roanoke and Conference Center.

Bohland joined Tech's faculty in urban affairs and planning in 1980 after serving 11 years at the University of Oklahoma, where he chaired the geography department. He attained the rank of full professor at Tech in 1984 and chaired the Urban Affairs and Planning Program from 1984 to 1995. Since 1996 he has directed the School of Public and International Affairs, which he helped found.

In addition to directing the Veterinary Teaching Hospital, Martin teaches at the Virginia-Maryland Regional College of Veterinary Medi-

cine, where he has been a member of the faculty since 1983. Martin oversees both the Extension and continuing-education programs in veterinary medicine. Martin practices and teaches both orthopedic and general small-animal surgery.

Robertson is the recipient of every major award given in the field of Civil War history. He has written such award-winning books as *General A.P. Hill, Soldiers Blue and Gray* and *Civil War! America Becomes One Nation* and directed the nation's Civil War centennial celebration. Robertson appears regularly in Civil War programs on the Arts & Entertainment Network and the History Channel and writes and narrates a weekly broadcast carried by 11 public radio stations. His book, *Stonewall Jackson: The Man, The Soldier, The Legend*, was a main selection of two major book clubs and has won eight national awards.

CVC Winner



MCCOY

Frances McCoy from the Bursar's Office won lunch for two at Donaldson Brown in the Commonwealth of Virginia Campaign (CVC) drawing held November 26.

Her name was chosen from all who had sent in pledge cards by that date. The final drawing for prizes was held December 10.

Tech's marine-aquaculture research flourishing with flounders

By Angela I. Correa

The Aquaculture Center at Virginia Tech has received more than 2,500 juvenile summer flounder (*Paralichthys dentatus*) from the Virginia Seafood Agricultural Research and Extension Center (VSAREC) in Hampton.

The fish will be used in a research project funded by the National Marine Aquaculture Initiative of Sea Grant. For this collaborative effort, approximately 30,000 summer-flounder eggs spawned at the University of Rhode Island were shipped to the VSAREC, hatched and reared using a unique greenwater culture system developed and refined by Michael Schwarz and researchers at the Hampton Seafood Center. The protocol resulted in 60-day post-hatch survival rates in excess of 90 percent. The high survival rate is remarkable, because during this time period, larval flounder must be fed a succession of live feeds, be weaned to dry feeds, and undergo substantial metamorphic changes.

Before metamorphosis, flounder larvae resemble the larvae of other fishes more closely than adult flounder, with a symmetrical body shape and eyes on both sides of their head. Approximately 30 days post-hatch, larval flounder undergo metamorphosis and their eyes gradually migrate to the left side of the head and their body takes on a flattened appearance as they transform from a free-swimming stage to a benthic lifestyle, events which are normally associated with high mortality rates.

The high survival rate with summer-flounder larvae at the VSAREC is exceptional and has resulted in the availability of sufficient flounder juveniles to perform three simultaneous feeding trials. In addition, several hundred metamorphosed flounder were returned to URI to conduct pigmentation studies, and over 5,000 juvenile flounder were sent to Harbor Branch Oceanographic Institute to foster collaborative flatfish research. Research work at the VSAREC has also included larval rearing of southern

flounder (*Paralichthys lethostigma*) eggs with similar results. These advances in the larviculture of *Paralichthys* sp. eggs and larvae are the direct result of innovative systems design and larval rearing techniques that have been perfected by Schwarz and the researchers at the VSAREC. Information on these production protocols will be presented at the World Aquaculture Society's Aquaculture America 2003 meeting in Louisville, KY.

The flounder juveniles at the Aquaculture Center will be used in two separate studies investigating the basic nutritional requirements of the species. The research will be directed by Steven Craig, head of aquaculture nutrition, and Ewen McLean, director of the Virginia Tech Aquaculture Center.

Under the direction of McLean and Craig, extensive renovations at the Aquaculture Center have been under way for the last 10 months. These renovations will culminate with the addition of over 150 experimental units of varying capacities and designs. When completed, the center will have invested over \$250,000 in new equipment, recirculating systems, laboratories, a workshop, and a new graduate study room. These funds have been acquired with extramural funding, internal Virginia Tech funding and startup funds from McLean and Craig.

COMPETITION

Continued from 3

is more bang for the buck so to speak, in the flavor, but not necessarily in over portions."

Flynn said that the current cooking trends have become more elaborate and that service is the principal issue. Appetizers can even now be served in little skillets if you want to serve something hot to your guests.

As the senior executive chef for Owens Dining Center, Flynn also oversees Personal Touch Catering and Hokie Grill & Co. Since more than 55 percent of all meals on campus come from Owens alone, he oversees a fairly large staff that he credits for Culinary Services' success.

"I can't take all the credit. I mean you've got all these people here, who have been here for 30 years, and they know the systems, they know the routines, all they need is a little fine tuning," he said.

The *Bristol Herald Courier* has taken heed of Culinary Services' budding reputation. After *Southern Living* discontinued its cooking school show, the newspaper asked Culinary Services if they could put on the event for their tri-cities community. Flynn and Brian Grove, project and training manager, along with the

Residential and Dining Programs' marketing division, presented the two-hour show, titled "The Heart of Virginia Tech's Grand Buffet." The cooking school show proved to be a success as Culinary Services was invited to host the event again next year.

Flynn developed his passion for the culinary arts at the age of 13 when he began working at his family's restaurant. By the age of 16, Flynn became a chef's assistant, and by the age of 21 he became an executive chef. Flynn went on to receive his formal culinary training at the New England Culinary Institute in Montpelier, Vermont earning a culinary-arts associates degree.

HALLERMAN'S

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based on their population levels and on the necessity for understanding differences between individuals and populations in a species.

Hallerman and Yechezkel Kashi of Technion University in Israel created a collection of molecular tests for the presence of *E. coli* in food and water. Use of a kit containing these testing materials would cut the time needed to detect and identify dangerous *E. coli* in food and water.

Genetic fingerprinting has ramifications for national security because it makes identification of suspects and victims much easier. For example, genetic fingerprinting studies showed that that source of the spore in the anthrax mailings were identical to stocks of anthrax maintained by the U.S. Army since 1980.