VirginiaTech magazine

fall 2010 | vol. 33, no. 1

New school, new medicine

I, Robot | Physics and football

VirginiaTech
Invent the Future

Contents

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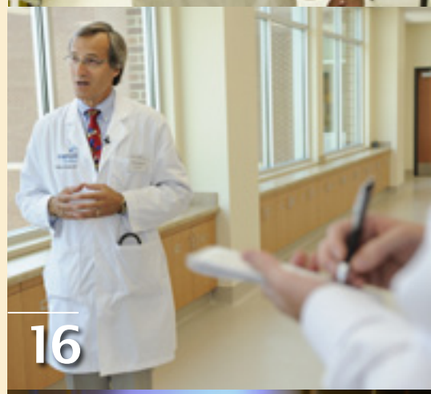
On the cover: (From left) Don Vile, Raeva Malik, and Robert Brown, members of the 42-student charter class at the Virginia Tech Carilion School of Medicine and Research Institute, pose outside the new building in Roanoke, Va. Photo by Jim Stroup.



DEPARTMENTS

Virginia Tech Magazine
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Alumni Notes
Shirley Fleet
Associate Vice President
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Director of Marketing
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Melissa Richards
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Tom Tillar '69

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Advertising opportunities are throughout the magazine, and alumni may promote their businesses in the Class Notes section. For advertising rates and information, contact Horace Cross, advertising coordinator, at *hbcross@vt.edu* or 540/231-2966.

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Letters to the editor: Send us your thoughts at *vtmag@vt.edu*

From left, Michael Banks '04, Juan Espinoza '04, Alex Espinoza, Jared Irish '04, Chris Bonner '04, and Andrew Espinoza, ready to run with the bulls in Spain.

Hokies run with the bulls

Fully aware of the dangers of marriage, I thought it would be best to prepare for it by celebrating my bachelor party in Pamplona for the running of the bulls. Although my fellow Hokie classmates are scattered across the world, we managed to meet up for a nice fiesta. We were not only lucky to be in Spain for a Spanish World Cup victory, but also fortunate enough to finish the run as a group in a little over two minutes unscathed. After a victorious return home, I was more than ready to marry the lovely Kara MacLeod.

Go, Hokies!

Juan P. Espinoza '04
Blacksburg, Va.

Center for the Arts

I can appreciate the worth in a building for the arts, but why does it have to look like warmed-over Bauhaus? For those unfamiliar with this sort of architecture, let me offer a little history. The Bauhaus was conceived during the Weimar Republic, Germany's failed attempt at democracy that followed World War I. It was a school founded in the city of Weimar, where the republic had also been founded. Walter Gropius was the leader in this effort to amalgamate all visual arts into one school. It later moved to Dessau, where it had a profound effect, especially on architecture. The guiding principle of Bauhaus architects was "form follows function," which led to plain, box-like structures. I personally do not admire them and had hoped that Bauhaus had faded away. The Nazis considered these designs decadent, so the school was shut down as the republic was extinguished.

Harry Holland '46
Greenville, S.C.

The System X supercomputer

I wonder how fast iTunes loads at 10 teraflops?

Kevin Zhan '10
Charlottesville, Va.
via Facebook

Hereditary Hokies

My infant son is a fourth-generation Hokie. We decorated the nursery in Hokie colors largely to honor my dad, [a member of the]corps of cadets and Class of 1951.

Joe Hoggard
Oak Hill, W.Va.
via Facebook

Me, hubby, three of our four kids, son-in-law, daughter-in-law, sister, sister-in-law, one niece, two nephews, two cousins, and their spouses. One U.Va. grad, but he works for Virginia Tech and always cheers for Tech over that other school!

Karen Torgersen '78, M.B.A. '86
Raleigh, N.C.
via Facebook

I was the first and proud to say so. Even more proud that my daughters are turning it into a tradition! Bloodlines or not, we are all one big Hokie family, and few understand how strong the ties that bind are!

Todd Dale '86
Eagleville, Pa.
via Facebook

Ray Wolfe

Remembering D.C. Wolfe

[Below] is a 1921 picture of Highty-Tighties band Capt. D.C. Wolfe (fourth from the right, with stripes on sleeves) and little sophomore brother Ken (he's second from the right and looking dismal). Big Stone Gap, Va., was a good place in which to grow up! They did well!

"De" was my uncle. He graduated in 1921. Dad followed him in 1923 [electrical engineering]. I was a distant third. We kept in touch with De though he and wife Ruth lived in Atherton, Calif. We lived in Springfield, Pa. (suburban Philadelphia). Dad died in 1960 at age 58. He worked most of his career for Philadelphia Electric Company in sales.

I "made it out" of Tech in 1956, mostly thanks to the influence and guidance of these two!

Ray Wolfe '56
Westport, Conn.

See the summer 2010 article on D.C. Wolfe and the slideshow of his WWI-era images of Virginia Tech at www.vtmagazine.vt.edu/sum10/feature4.html#_slideshow.

Fellow alumni:

You may have noticed some changes to *Virginia Tech Magazine* over the past several issues. Concurrent with the Fall 2008 issue we merged *Alma Mater*, a semi-annual publication of the Alumni Association, into *Virginia Tech Magazine*. This change afforded university relations and the Alumni Association cost savings and a streamlined production process.

With this issue more changes appear. You now will see paid advertising throughout the publication. Formerly only the alumni section was ad-supported. We adopt this new business model reluctantly. However, university finances demand that we reduce costs or find supplemental revenue.

For many years, we reduced costs and expanded distribution. I fear that those days are over. For almost two decades we have distributed the magazine free to all alumni. We remain one of the few large universities to continue this practice.

You have repeatedly told us through survey after survey that *Virginia Tech Magazine* is your primary source of news and information about your alma mater. While alumni magazines remain expensive programs and I sometimes hear a clamor to replace print with some version of electronic distribution, our experiences, research, and feedback continue to support a traditional print magazine approach.

We hope that this periodical just might have some small role in the legendary affection and support the Hokie Nation repeatedly expresses for Virginia Tech.

And if your business needs exposure in front of 180,000-plus highly educated American consumers with a penchant for strange color combinations, we've got just the ad vehicle for you. Learn more at *www.vtmagazine.vt.edu/advertising.html*.

Larry Hincker '72
Associate Vice President for University Relations

Corrections and clarifications

The first name of Bennet Cassell was misspelled in "Tech's gutsy go-to guy," a summer 2010 story about Stuart Cassell.

The spring 2010 Hokie Stone article referenced a board of visitors resolution during the 1990s requiring Hokie Stone on all campus buildings. Although this sentiment clearly was the direction from the board's building and grounds committee, a resolution never went before the full university board for action.

Pamplin professor receives Fulbright grant

Janine Hiller, professor of business law in the Pamplin College of Business, has received a Fulbright Scholar grant and the Fulbright-Lund Distinguished Chair of International Public Law. She will spend the fall 2010 semester in Sweden at Lund University's Raoul Wallenberg Institute of International Human Rights Law. Hiller will participate in undergraduate programs and faculty and graduate-student seminars, and pursue a research project comparing Swedish, European Union, and U.S. approaches to balancing patient privacy and health rights in the area of electronic health-record systems.

Thurmon Lockhart

Lockhart to serve on National Institutes of Health review board

Thurmon Lockhart, an associate professor in the College of Engineering's Grado Department of Industrial and Systems Engineering, has been invited to serve a five-year term on the Center for Scientific Review's Musculoskeletal Rehabilitation Sciences Study Section at the National Institutes of Health. His term began on July 1, and expires on June 30, 2016. Selection is based on demonstrated expertise and achievement in an area of study, including quality of research accomplishments, publications in scientific journals, and peer-group honors.

U.S. News gives high marks to undergraduate engineering, business programs

Virginia Tech ranks 69th among the 100 best universities—an advancement of two places from recent years—in *U.S. News & World Report's* survey of undergraduate programs, America's Best Colleges 2011. The College of Engineering ranks 13th among the nation's top 20 engineering schools, up from last year's 14th place. The Pamplin College of Business again ranked No. 42 among the top 50 business schools.

Lieberman awarded first graduate scholarship from NCR alumni chapter

Perrin Lieberman is the first graduate student in the National Capital Region to be awarded an academic scholarship by the region's Alumni Association chapter. A full-time student who expects to graduate in May 2011, Lieberman is pursuing a master of arts in education, with a concentration in counselor education, in the School of Education at the Northern Virginia Center.

Clinical trial points to simple appetite control method: drinking water

Brenda Davy, associate professor in the Department of Human Nutrition, Foods, and Exercise in the College of Agriculture and Life Sciences, is the senior author on a recent study that reports results of a new clinical trial confirming that two eight-ounce glasses of water before meals can increase dieters' weight loss by about five pounds. The study included 48 adults, aged 55-75 years, divided into two groups. One group drank two cups of water prior to meals; the other did not. Over the course of 12 weeks, water drinkers lost about 15.5 pounds, while those not drinking water before meals lost about 11 pounds.

Lumenhaus sweeps European Solar Decathlon

Lumenhaus, Virginia Tech's entry in Solar Decathlon Europe, won the 10-day competition this summer in Madrid. The solar house—designed and originally constructed on the Blacksburg campus—was declared the most efficient structure in the decathlon. Seventeen solar houses from seven countries on three continents were judged in 10 different categories. The house tied for first in architecture, placed second in communication and social awareness, and placed third in industrialization and market viability and in lighting. A team of faculty, undergraduate, and graduate students from four Virginia Tech colleges designed and built the solar house. Learn more at *www.lumenhaus.com*.

Office of Economic Development spearheads team that lands $4.7 million grant

Twenty-five partners on a Virginia Tech-led team will help train health care workers in the new world of electronic medical records. Under a $4.7 million grant from the U.S. Department of Labor, the team—drawn from industry, academia, and government—will focus health information technology training in communities hit hard by job losses in Southwest Virginia. Called HITE, for Health Information Technology Education, the initiative will target workers in nursing, pharmacy, and medical-assistant fields.

Jim Stroup

Stroup named photographer of the year

Jim Stroup of the Office of University Relations was named Photographer of the Year by the University Photographers' Association of America (UPAA). At the annual UPAA symposium in June, Stroup also won the Nikon Shoot Out Competition and the Monthly Image Competition Award, making him the first photographer to win all three major awards in one year.

Daniela Cimini

Biologist awarded Human Frontier Science Program grant

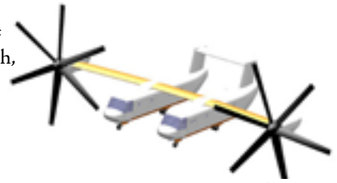
Daniela Cimini, assistant professor of biological sciences in the College of Science, is the first researcher from Virginia Tech to be awarded a collaborative international grant from the Human Frontier Science Program. Cimini will share the $1.05 million, three-year grant with two colleagues from universities in Austria and Germany. Cimini has a growing international reputation in the study of chromosome structure and mechanics, molecular controls over cell division, and relationships between errors in cell division and many human diseases, including cancer.

Research funded by recovery act exceeds $34 million

Faculty members have been awarded more than $34 million from the American Recovery and Reinvestment Act since it was passed in February 2009. Of the 91 awards, 47 are from the National Science Foundation, while others are sponsored by such organizations as the National Institutes of Health, U.S. Department of Justice, and National Institute of Standards and Technology.

Geoscientist awarded Fulbright to study in France

A Fulbright grant will enable Tom Burbey, associate professor of geosciences in the College of Science, to travel to France this fall to study fractured rock hydrogeology. Along with his French counterparts, Burbey will conduct research at a site in Ploemeur, France. His research focuses on fluid flow and aquifer-system dynamics in complex fractured and faulted systems.



Amphibious aircraft takes first place in NASA contest

Ten Virginia Tech undergraduate aerospace engineering students took the top prize in a NASA aeronautics competition for college students to develop a multipurpose amphibious aircraft. The engineering students were asked to design

Magazine readership survey

Editor's note: In late October, you might receive an e-mail to participate in a *Virginia Tech Magazine* survey. The simple Web-based survey was developed by editors of university and alumni magazines through the Council for the Advancement and Support of Education, of which Virginia Tech is a member. Your confidential answers will provide us with a comprehensive picture of how you perceive the magazine, how we can improve it for you, and how the magazine compares to university magazines across the country. A random sampling of readers will receive the survey invitation. If it reaches your inbox, we encourage you to participate—and help us make *Virginia Tech Magazine* even better.

a civilian aircraft that could rescue up to 50 survivors in the event of a natural disaster. Their design appeared as a rotorcraft that resembled a catamaran. NASA's Aeronautics Mission Directorate in Washington sponsored the competition through the subsonic rotary wing project in its Fundamental Aeronautics Program. More than 100 college students from across the globe entered the contest as part of teams or as individuals.

Tire research center established in Southside Virginia

Virginia Tech announced the creation of the National Tire Research Center (NTRC), an advanced tire research and test facility in Southside Virginia. The facility is a partnership among the Virginia Tech Transportation Institute, the Department of Mechanical Engineering, General Motors (GM) Company, the Institute for Advanced Learning and Research, the Southside Virginia community, and the Virginia Tobacco Indemnification and Community Relations Revitalization Commission. The NTRC will generate more than $12 million in testing and research expenditures within five years and will create up to 183 new jobs in the local economy by 2020.

Chemist honored with Camille Dreyfus Teacher-Scholar Award

Edward Valeev, assistant professor of chemistry in the College of Science, is one of 14 researchers across the country to receive the Camille Dreyfus Teacher-Scholar Award for 2010. The $75,000 award recognizes leadership in chemistry research and education, providing funding for young faculty members in the early stages of their careers. Valeev's research group works toward accurate quantum-mechanical prediction of properties of molecules and materials.

Google funds scholarships for Haitian students

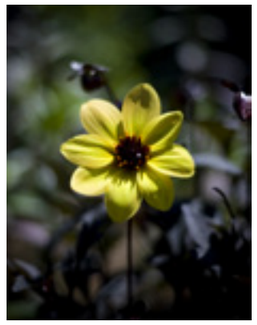
Google has provided funds to fully support four Haitian Virginia Tech students pursuing graduate degrees in computer science. Sherley Codio, Fabrice Marcelin, Jennifer François, and Mario Calixte will continue their studies at Virginia Tech, thanks to the support. Their studies were part of a three-year initiative funded by the U.S. Agency for International Development through Higher Education for Development to train a new generation of technical professionals for Haiti. All four were in the United States at the time of the Jan. 12 earthquake.

Tech receives $1.4 million science-education award

Virginia Tech was among 50 research universities nationwide to receive a Precollege and Undergraduate Science Education Program award from the Howard Hughes Medical Institute (HHMI). The award will be used to encourage faculty members to develop new ways to teach undergraduate students about science and research. The $1.4 million award—the university's first education award from HHMI—was among $70 million in grants given by the institute this summer. HHMI invited 197 research-focused universities to apply for the grants.

Equine medical center receives award of excellence

The U.S. Park Police Horse Mounted Patrol recently presented an Award of Excellence to the Marion duPont Scott Equine Medical Center for the "truly exceptional veterinary services received from this nationally recognized equine health care facility." The award states that "for decades, this premier equine hospital has provided both intensive and critical equine health care services for the U.S. Park Police horses." Amy Troppmann, director of development for the center, accepted the award.



Nature preserve dedicated, donated by alumni

The Nature Conservancy (TNC) in Virginia established a 222-acre nature preserve north of Blacksburg, Va., the result of a donation from Evelyn Lilly Blake (M.S. home economics '49) of Daleville, Va. The Oscar Jennings (M.S. architecture engineering '49) and Evelyn Lilly Blake Preserve contains a large swath of rare calcareous forest and was granted Natural Area Preserve status by the Virginia Department of Conservation and Recreation. In a calcareous forest, porous limestone bedrock provides a foundation for nutrient-rich soils. As a result, most calcareous forests in Virginia were converted to agriculture; less than 5 percent of these forests in Virginia remain intact. The Blakes lived in the area for many years and wanted to see the land protected by TNC. Oscar Blake, now deceased, was a professor of civil engineering (1953-85).

"Mrs. Blake's generosity reveals how important a role private landowners play in preserving Virginia's outdoors for future generations," said TNC Director Michael Lipford (biological sciences '78). "Their conservation ethic is critical to the protection of the commonwealth's forest land and the air and water quality benefits we receive from healthy forests."

Janis Terpenny to hold director's post at National Science Foundation

Janis Terpenny, professor of engineering education and mechanical engineering in the College of Engineering, is joining the National Science Foundation (NSF). On Aug. 30, Terpenny began as program director for the Division of Undergraduate Education, Directorate for Education and Human Resources at the NSF. Her work is in programs advocating science, technology, engineering, and math, as well as cyberservice.

U.S. Marine Corps to use autonomous vehicles built by engineering students

The U.S. Marine Corps Warfighting Laboratory worked closely with Virginia Tech and TORC Technologies in the creation of four Ground Unmanned Support Surrogates. The unmanned vehicles can carry up to 1,800 pounds and can move at the speed of a soldier on foot, about five miles per hour. The vehicles are designed to resupply troops, to reduce the loads manually carried by Marines, and to provide an immediate means for the evacuation of casualties.

For more news about Virginia Tech, visit *www.vtmagazine.vt.edu*, where you can read such stories as

Researchers use geometry to clean up oil spills

Student's concept for music studio in Haiti wins first place

Blind Driver Challenge vehicle takes top awards at NIWeek

Pamplin business-ethics researchers ranked among the top

Student-designed 'Athena' could take astronauts to near-Earth asteroids

Virginia Tech to aid improvement of agricultural education in Senegal

Research aims to prevent bullying

A study under way in the Department of Psychology in the College of Science has shown a decrease in reported bullying and an increase in caring behavior among school-age children as the result of using a program developed by Alumni Distinguished Professor E. Scott Geller. The program, called Actively Caring, encourages students to report bullying behavior and, at the same time, recognizes students who show acts of kindness and compassion.

"Bullying is a serious epidemic sweeping across our country today," said Shane McCarty, senior marketing major who is leading the research. "This program encourages a culture where it's cool to care for others."

Geller is an internationally known expert in the psychology of safety and applies the Actively Caring concept to improve safety-related behaviors. He has found that increasing an individual's self-esteem, sense of belonging, self-efficacy, personal control, and optimism can improve that person's propensity to actively care for other people.

The group plans to extend the program to elementary schools along the East Coast.

JOHN MCCORMICK

Hybrid Electric Vehicle Team scores second place in competition

Virginia Tech's Hybrid Electric Vehicle Team recently took second place in the international EcoCAR Challenge, a three-year design competition that seeks to inspire science and engineering students to build automobiles that are more energy-efficient. The team won second place overall and won the categories of electrical presentation, static consumer acceptability presentation, braking distance, lane change, use of National Instruments tools, progress reports, and pre-competition safety tech inspection. In all, the team captured $10,000 in prize money.

the inner workings of virginia tech

BY JESSE TUEL

Physics and football

The leather-bound prolate spheroid, more commonly known as a football—and the object of our Hokie fascination—has a life of its own before, during, and after the game.

THE PIGSKIN'S INNER EQUATIONS

1) Plenty of physics lessons pass through the football on game day. We see the ball take flight, en route toward one, three, or six points, but that's not the only math going on. Get this: at the moment of impact, starting kicker Justin Myer's foot causes the football to deform inward—even with his usual soccer-style kick. For the sake of illustration, Myer kicked a few fully inflated balls with his toe.

2) The impact causes waves to traverse the ball's warped membrane like a sound vibration. Points on the surface are "pulled back and forth by their own neighbors," said John Simonetti, a professor in the physics department. "That's what a wave is about, [and it] will get transmitted all around." Still, the initial waves are irrelevant to the direction of flight. "Those forces add up to nothing."

3) Newton's third law of motion—equal and opposite reactions to any force—dictates that the ball pushes back on the foot with equal force, Simonetti said. But the foot, carrying the mass of the body's momentum, wins out, imparting a vector that causes acceleration and rotation.

4) Inside the ball, air molecules respond to rotation in about 0.5 milliseconds, Simonetti said. The molecules flit about anyway, bouncing off opposing walls at the rate of about 340 meters per second. Given the Nike 3005's circumference of 56 centimeters perpendicular to the laces, the molecules swiftly apply the ball's in-flight rotation to their otherwise random freneticism.

5) Outside the ball, other forces are in play. The backspin on a kicked ball, tumbling end over end, produces a measure of lift. The top surface of the ball moves away from the direction of flight, creating a velocity between the air and the ball's surface that is less than the velocity influencing the bottom plane of the ball. Were the spin reversed, it would generate downward force.

6) Any Monday-morning quarterback will tell you the spiral pass is more aerodynamic than a ball tumbling end over end. But it's not quite perfect. The ball's laces cause a disturbance in the air, creating a destabilizing wobble that is counteracted by the quarterback's tight, hard-thrown spiral. "You don't want wobble," said Joseph Schetz, the Fred D. Durman Chair of the aerospace and ocean engineering department, who teaches a Fluid Flows in Nature course that incorporates flight in sports.

7) "My joke with the class is 'I can teach you a lot of fluid mechanics, and you don't even realize it,'" Schetz said. "All kinds of things we see in everyday existence are really very complicated if you sit down and ... start peeling the onion apart. All these little details, it's game-changing, to put it into sports lingo. No question about it."

THE LIFE OF A FOOTBALL

8) Each November, Lester Karlin, Virginia Tech Athletics equipment manager, orders 144 Nike 3005 footballs for the season that starts the following academic year. Players who'll handle the football a lot—quarterbacks, obviously—borrow a ball for the summer.

9) In August, Karlin gets 36-48 balls out and ready for the first practice. Defensive players practice with new balls; after a week or two, the spheres are cycled into the hands of quarterbacks, who select the balls for game day. The laces are marked to track usage. "We shuffle them around all the time," Karlin said.

10) A ball's leather, far too slick when new, is softened to be more receptive to players' grasps. One trick is to rub a ball with a brush, wipe it down with a damp rag, and throw it in the dryer.

11) No matter how thunderous Lane Stadium becomes after a touchdown, heaving a pigskin into the stands is frowned upon. "They don't. It's a 15-yard penalty—and I fine them," Karlin said.

12) After the season, the collection of footballs is sent to the university's surplus department to make way for new beginnings.

Go to *www.vtmagazine.vt.edu* to find an audio slideshow on the football's journey.

PHOTOS BY JOHN MCCORMICK

Job No. 1

Vocational specialists dismantle employment barriers for NRV residents

BY JESSE TUEL

Uprooted and forced out of her home community by domestic violence, Christy relocated to Radford, Va., several years ago.

Today, her family is bouncing back. After residing in a women's shelter and then a transitional apartment, the 30-year-old and her children, ages 14, 12, and 7, moved into a house this summer. And Christy, whose last name is withheld for privacy, landed a job earlier this year.

Things are looking up, and the help she's had along the way has been instrumental. Christy was paired with a vocational specialist at the Virginia Tech Institute for Policy and Governance (VT-IPG), which gave her the job readiness training she needed.

Vocational specialists at the institute staff the Partnership for Self-Sufficiency (PSS), providing intensive support to clients referred by local Department of Social Services offices in Radford and the counties of Montgomery, Giles, Floyd, and Pulaski. Clients like Christy, eligible for federal Temporary Assistance for Needy Families funding administered through the Virginia Initiative for Employment not Welfare, must become employed to continue receiving the temporary aid.

Job No. 1 for the specialists—David Marshall, Karen Mealy, Michelline Stokes, and Teena Vernon, along with program director Mary Beth Dunkenberger—is reducing barriers for employment. A barrier can assume any number of forms: domestic violence, criminal records, substance abuse, physical or mental health issues, food and housing needs, lack of transportation, and more.

Even appearance, such as a lack of dental care, can be an employment barrier. A person missing teeth will have difficulty landing a job in food service. "That person automatically has a strike against them," said Dunkenberger. "We're constantly trying to get more resources for dental care."

The fact that the vocational specialists are equipped for dismantling all of those barriers testifies to just how far Virginia Tech is willing to go to fulfill its outreach mission. The specialists collectively manage about 100 cases at any one time, responding to the needs of each individual.

When the transmission in Christy's car failed, Mealy drove her to pick up applications and drop them off, taking her as far as Roanoke for an interview. So that Christy could drive at night without headaches, the program provided a pair of glasses. Their first interaction was through Mealy's job-readiness class. "She went over success skills, how to interview, how to answer certain questions. She went into how to write a résumé," Christy said.

Christy now has a housekeeping job, but Mealy still calls whenever she spots a job opening that might pay better. "She's helped out tremendously," Christy said. "I think it's a really great program. It's just awesome. I know a lot of people have been successful with this program."

In many cases, the vocational specialists help clients navigate an intimidating system of services and job opportunities, such as how to get a birth certificate in order to obtain a driver's license, or which employers are willing to hire those with criminal records.

"There are a lot of bureaucratic hurdles that the clients are just not equipped to deal with," Dunkenberger said.

Added Stokes: "A lot of them are intimidated by the system to begin with, or they don't trust it, or they have misinformation. We help them pinpoint where they need to go."

KELSEY KRADEL

From left, Karen Boone, fiscal technician; Karen Mealy, vocational specialist; Mary Beth Dunkenberger, program director; and vocational specialists Michelline Stokes, Teena Vernon, and David Marshall, all with the Institute for Policy and Governance's Partnership for Self-Sufficiency, are helping New River Valley residents overcome barriers to employment.

Specialists converse with a new client, trying to draw out the issues that aren't immediately evident. "Sometimes we're able to help the client accept that they need help, and have those conversations with them, and then they're more likely to accept help," Stokes said.

Sometimes the progress is one step forward, one step back. Although one client lost her job after a panic attack, the event helped her acknowledge that she needed mental health assistance. Once she stabilizes, she'll still have the job-seeking skills. Another man who served time in jail for drugs was laid off from his job, but he's thrilled to have something on his résumé between incarceration and his next job, the specialists said.

"They're just happy to have someone highlight that they have skills and present it in such a way that they can articulate them and own those skills, because they don't really understand the value of all they have to offer," Stokes said.

The specialists who give these invaluable gifts are often rewarded in turn. Stokes recently heard back from two clients whose cases were closed but were seeking additional advice.

"Having them trust me enough to call me, even though I don't have to work with them anymore, that gives me satisfaction," Stokes said.

The institute itself builds strategic relationships between the university and community by linking academic research and outreach efforts to address public policy challenges. PSS blends theory with practice; Dunkenberger calls it a "living laboratory." Studying societal issues from a systemic perspective, VT-IPG's researchers are also informed by results in individual cases and can test interventions in real settings. If lawmakers in Richmond wonder whether domestic violence is a barrier to employment, the vocational specialists are beginning to document the answer, estimating that at least 25 percent of their cases involve domestic violence as an impediment. Regarding mental health, researchers developed screening and referral protocols with New River Valley Community Services. Two years into the collaboration, they're evaluating its efficacy in helping clients achieve self-sufficiency.

VT-IPG Director Max Stephenson Jr. said case analysis allows researchers to understand contextual elements more subtly and completely than otherwise possible.

"Our PSS program and related research yields insights into actual program impacts that directly inform relevant state and federal officials of the implications of their legislative, budgetary, and regulatory choices for those they aim to serve," Stephenson said. "That knowledge can inform policy decisions and permits the university to serve a profoundly important social function."

Like the clients they serve, the specialists get to witness success. Christy, for her part, plans to permanently improve her career potential. On the same August day that her children started school, Christy started a full-time slate of classes that fits into her work schedule. Within about two years, she figures, she can become a nurse.

Professor Profile

Romesh Batra

the measure of success

BY JESSE TUEL

- **Clifton C. Garvin Professor, Department of Engineering Science and Mechanics**
- **World-renowned researcher in the strength of materials under explosive loads, e.g., lightweight armor for soldiers and Humvees**
- **Teaches courses in continuum mechanics, finite element methods, nonlinear elasticity**
- **Ph.D., mechanics and materials science, The Johns Hopkins University; M.S., mechanical engineering, University of Waterloo, Canada; B.S., mechanical engineering, Thapar University, India.**

Recognition

- **2010 Virginia Outstanding Faculty Award, sponsored by the State Council of Higher Education for Virginia and Dominion, an energy company**
- **2009 Engineering Science Medal, Society of Engineering Science, for his singular work on material failure**
- **2009 Lee Hsun Research Award, Chinese Academy of Sciences, for his work on understanding material behavior under explosive loads**
- **2000 Eric Reissner Medal, International Congress of Computational and Engineering Society, for his fundamental work in simulating the penetration of a missile into a tank wall**
- **1992 Alexander von Humboldt Award for his pioneering work in developing an understanding of the failure of materials due to extreme loads**

The collision was offset from the center by 1.2 millimeters, the Ph.D. student said, but noted that the authors of the paper he was citing didn't explain whether the offset was along the X axis or the Y axis or both.

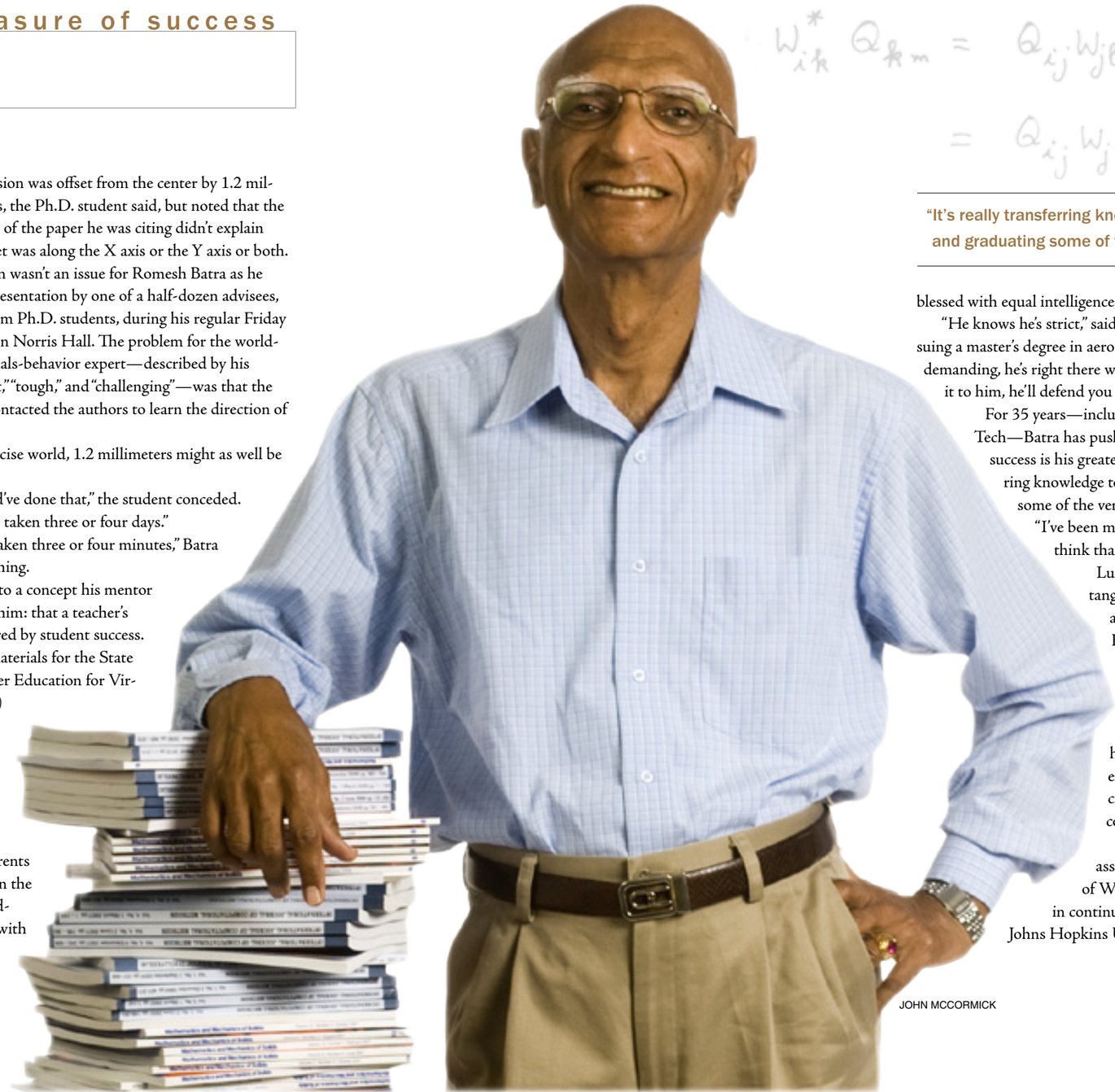
This omission wasn't an issue for Romesh Batra as he listened to the presentation by one of a half-dozen advisees, all but one of them Ph.D. students, during his regular Friday advising session in Norris Hall. The problem for the world-renowned materials-behavior expert—described by his students as "strict," "tough," and "challenging"—was that the student hadn't contacted the authors to learn the direction of the offset.

In Batra's precise world, 1.2 millimeters might as well be a mile.

"Yes, I should've done that," the student conceded. "[But] it could've taken three or four days."

"It could've taken three or four minutes," Batra said, calmly coaching.

Batra points to a concept his mentor impressed upon him: that a teacher's success is measured by student success. In nomination materials for the State Council of Higher Education for Virginia's (SCHEV) 2010 Outstanding Faculty Award, Batra explained that in Eastern cultures, some measure the success of parents raising children in the same way. Accordingly, he teaches with the realization "that all of us are blessed with equal intelligence, and everyone has special skills."



JOHN MCCORMICK

"It's really transferring knowledge to younger people and graduating some of the very brightest students."

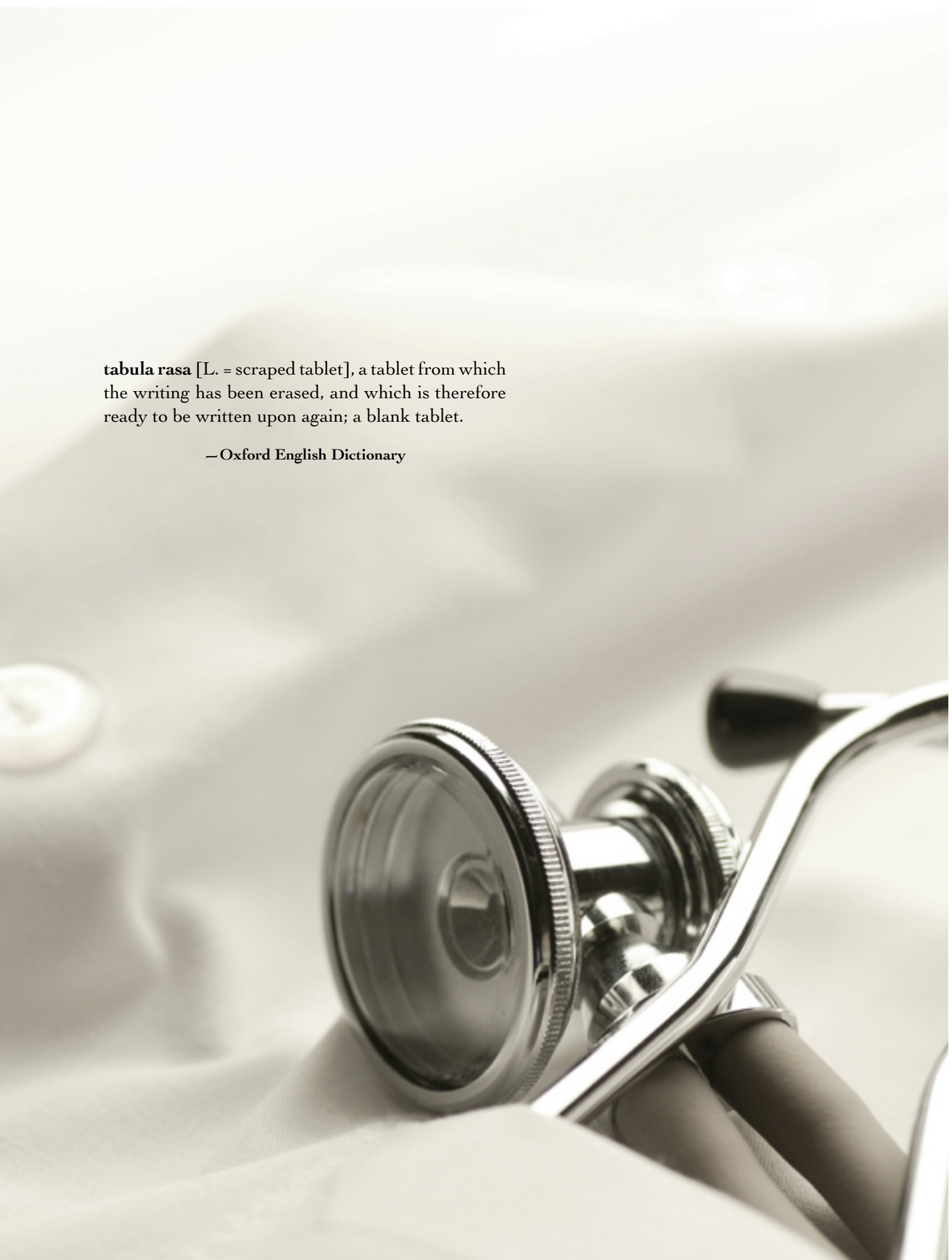
"He knows he's strict," said Joseph Callahan, an advisee pursuing a master's degree in aerospace engineering. "Because he's demanding, he's right there with you. Because you've defended it to him, he'll defend you to other people."

For 35 years—including the past 15 at Virginia Tech—Batra has pushed his students to excel. Their success is his greatest satisfaction. "It's really transferring knowledge to younger people, and graduating some of the very brightest students," Batra said. "I've been more lucky than I thought I'd be. I think that's true."

Luck, perhaps, but consider the intangibles. As an undergraduate, Batra attended India's Thapar College of Engineering, living with his older brother in a large city rather than with his parents in their small hometown since the nearest college was 15 miles away from his parents' house. To help with expenses, he tutored his neighbor's children in return for home-cooked meals.

He received a graduate research assistantship from the University of Waterloo, Canada, and his interest in continuum mechanics led him to The Johns Hopkins University for doctoral studies.

–continued on page 36



VTC Virginia Tech Carilion
School of Medicine and Research Institute

Diagnosing the doctors of tomorrow

Methods for selecting and teaching students stand apart in new medical school

BY JESSE TUEL

An archaic Latin phrase that graced the printed page as early as 1535 best describes the unknown future of medicine.

The premise that future physicians should be "thought leaders"—intellectually nimble, research-minded doctors who draw from the latest knowledge to tailor care for each patient—guides Virginia Tech's exploration of the unknown. On the heels of a 20-year span during which no new medical schools were established in the United States, Tech has exercised its innovative awareness to craft a school that utilizes radically different but proven methods of selecting and teaching students.

From a blank slate to fruition, the Virginia Tech Carilion (VTC) School of Medicine and Research Institute in Roanoke, Va., opened its doors Aug. 2, ushering the charter class of 42 students into a progressive, entrepreneurial program of medical education that already stands boldly apart.

The school, a first-of-its-kind public-private partnership between Tech and Carilion Clinic, a regional health care network, selected its charter class through multiple-mini interviews (MMI), a technique only a half-dozen U.S. medical colleges employ, according to the technique's co-creator. Additionally, students are immersing themselves in a curriculum that centers on problem-based learning, a faculty-intensive and demanding approach that just 15 percent of U.S. medical colleges utilize.

VTC administrators said concepts students learn today must be applicable when they begin practicing medicine. After four years of medical school, three to seven years of residency, and one to three years of fellowship, VTC physicians will be equipped to handle whatever the future holds.

"What is the future? This is the challenging part of starting a medical school because we don't know what this future is going to look like."

"What is the future? This is the challenging part of starting a medical school because we don't know what this future is going to look like," said Cynda Johnson, the school's founding dean. "So that is why our school is based on the mission of developing 'physician thought leaders,' through inquiry, research, and discovery. We're going to be training these students to be able to face—and lead—this unknown world of medicine."

"The neat thing about it is we had a clean slate," said Richard Vari, associate dean for medical education. Planning took on a simple premise, he said: "'What are the best things going on in the country? And let's do that. Or, let's not. Let's do it better.'"

COURTESY OF VTC

In a process similar to speed-dating, students rotated through 10 interview stations. A scenario was posted on the door of each room, and after a brief time for review, the student was ushered in for eight minutes one-on-one with an interviewer.

Panning for gold

Three weeks before the start of classes, a media-day tour of the Roanoke facility revealed faculty and staff in the last throes of a meticulous preparatory process that began in January 2007, when Virginia Tech President Charles W. Steger and Carilion Clinic President and CEO Edward G. Murphy announced the new school. A new-carpet smell permeated the pristine building, clad in 207 tons of familiar Hokie Stone. Classroom desks were still being assembled, while the library was still empty of books. Sight lines of mountains and the Roanoke cityscape, visible through large windows on all sides of the building, stood ready to welcome 42 new residents.

Just how the applicant pool was trimmed to 42 is intriguing. About 230 of the 1,650 applicants landed on-site interviews during the 2009-10 academic year, and the 42 spots were filled as August approached.

Many applicants were attracted to VTC for the research emphasis and the entrepreneurial chance to shape a new school and undertake a unique curriculum. Meanwhile, administrators analyzed applicants beyond the traditional MCAT and GPA tallies. They identified applicants who had a heart for serving others through medicine and who adopted an interest—academics, music, athletics, research, and more—and pushed themselves to excel, said Stephen Workman, director of admissions.

"Even if their overall grades or MCAT scores aren't necessarily at the top, if we see evidence of that kind of spark and enthusiasm and performance, those are the people who interest us," Workman said.

On site, the MMIs further refined the applicant pool. In a process similar to speed-dating, students rotated through 10 interview stations. A scenario was posted on the door of each room, and after a brief time for review, the student was ushered in for eight minutes one-on-one with an interviewer. For instance, one of the practice questions posted online for applicants asked them to discuss the ethical implications of a doctor prescribing homeopathic medicine to a patient as a reassuring placebo, even without evidence it would be effective.

Interviewers, many of whom were community leaders specifically trained for the MMIs, would listen to the applicant's rationale and then ask questions regarding the choices made by the applicant, rating candidates based on the interaction. Students also had an 18-minute traditional interview with a member of the admissions committee.

The MMI identifies students who don't "necessarily take the party line at face value," Workman said. "They will be inquiring. They will examine the evidence. They will ask when evidence is in absence. We think that will be reflective of their ability to be a better physician down the road."

"The response that I got from each applicant was different and interesting," said Bill Flattery, vice president of operations for The Physicians Group at Carilion Clinic, who served as a community-based interviewer. "I was surprised that the format could be so effective. The very best were able to emerge."

Grounded in questions of morality and ethics, the MMI weighs a student's ability to comprehend and apply new information for

JIM STROUP

Tim Johnson, associate dean for research and chair of basic science, visits with new VTC student James Joyner (middle) and Joyner's girlfriend, Kylee Miller, at the school's orientation session.

JIM STROUP

The Virginia Tech Carilion School of Medicine and Research Institute.

the benefit of the patient. It's also a proven predictor for scores on national licensing exams, which test for clinical decision-making skills while indirectly predicting future success, such as fewer complaints registered and a higher survival rate among patients who have suffered cardiac events, said Harold Reiter, professor and admissions chairman at the Michael G. DeGroote School of Medicine at McMaster University in Ontario, Canada, who co-created the MMI with Kevin Eva, Geoff Norman, and Jack Rosenfeld about 10 years ago.

The use of multiple interviews dilutes the bias of a single stellar or poor performance. "Anyone can perform admirably or horribly in one interview, regardless of their personal or professional skills," said Reiter, who traveled to Roanoke in July 2009 to train VTC leaders on the process.

Raeva Malik, a Potomac, Md., native who courted the idea of medical school from a young age through her bachelor's and master's degrees at Georgetown University, said the interviews were "intense." She was nervous at first, but grew more comfortable as she progressed through the 10 rooms. "Most people, when they're put under a high-pressure situation, will perform better," Malik said. "In the medical field, you always have to think on your feet."

"I thought it was the best interview process I've ever been to in my life," Brown said. "At the end of it, I really felt they knew me."

Robert Brown, who earned his biology major and chemistry minor at the University of North Carolina at Chapel Hill, endured a number of one-on-one and panel interviews for various medical schools. He left more than one of those interviews unsure if the interviewers understood him fully. Not so at the end of the MMI.

"I thought it was the best interview process I've ever been to in my life," Brown said. "At the end of it, I really felt they knew me."

For some prospective students, the attention to detail evident in the MMI and interview weekends was a deciding factor.

THE CHARTER CLASS **Students: 42** / Average Medical College Admissions Test (MCAT) score: 33 / **National MCAT average: 30** / Research experience: 70 percent / **Original or published research: 18 percent** / Age range: 22 to 32 years old / **Gender: 12 women, 30 men** / Residents of Virginia, the Mid-Atlantic region, and across the nation: 1/3 each

JIM STROUP

JIM STROUP

The 42-student charter class is divided into six teams. In each team work room, they will learn together and teach each other. From left, Yisrael Katz, Matthew Levine, Robert Brown, Greg Davis, James Light, and Alice Chen exchange contact information.

"We were just blown away—how organized they were, the whole community effort," said Don Vile, a 2000 Harvard University undergraduate who worked in software engineering and management before deciding to enter medical school, ultimately choosing VTC from among the five schools that accepted him. Don and his wife welcomed the birth of their daughter, Nadia, this summer, and his choice of schools encountered another factor—the best place for his family.

Vile credits Harvard with teaching him how to compete at the academic level required in medical school. He worked at Appian Corp., based in Washington, D.C., leading the architectural team in a start-up IT software company that grew from 10 to 200 employees. After six years at Appian, Vile had reached a point in middle management where to advance further he needed to learn new computer languages or go the M.B.A. route. "I was not willing to make that investment unless I really loved what I was doing," Vile said. "I enjoyed software, but it wasn't my passion."

His interests were in his Harvard major, engineering sciences with a speciality in biomedical research. Vile started volunteering at local hospitals and entered a Georgetown post-baccalaureate program for a full academic year of chemistry, physics, organic chemistry, biology, and biochemistry, preparing himself for the rigors of medical school.

Early in his application to VTC, Vile recognized that his start-up experience at Appian neatly mirrored the entrepreneurial nature of a new medical school.

"I thought about it as a great opportunity to be [part of] something new," said Vile, who interviewed on-site in October 2009 and was accepted just before the holidays. "The startup, in and of itself, is a neat environment. Combined with medical school, it'll be all the more interesting."

Malik felt much the same.

"I think it's exciting to be involved in a new medical school," Malik said. "I think first-year students will be offered many opportunities that medical students don't typically have. The students are going to be a part of building the medical school [along] with faculty. We're going to have critical input."

Students, in fact, will evaluate the medical school and faculty after the first year of matriculation as part of the push toward provisional accreditation. The school received preliminary accreditation from the Liaison Committee for Medical Education in mid-2009. After the first class graduates, VTC will be eligible for full accreditation.

It's a rare chance indeed. Not a single new medical school was opened in the United States from 1982 until 2002, when the Florida State University College of Medicine broke the dry spell. Ten schools have launched since 2002, according to the Association of American Medical Colleges.

The solution is the problem

On any given Monday, each of the six teams, seven students per team, will be given an actual patient case—the chief complaint, medical history, and physical exam for a patient with cardiovascular disease, for instance. Students then work through the case together, guided by a faculty facilitator, researching specific topics to present to the team at the next session on Wednesday. One

student might describe the anatomy of the heart's chambers; another might diagram electrical activity as currents move through the heart tissue. They'll apply this knowledge to the case and receive new information about the patient, leading to additional research and presentations on Friday. The week culminates with a private session for students to interact with the physician and the actual patient, allowing for meaningful learning in real time.

This is problem-based learning, focused on patient casework, with fewer traditional lectures, more hands-on learning, and a new case each Monday.

Directing the VTC curriculum is Richard Vari, lured away from the University of North Dakota School of Medicine and Health Sciences, where he led the curricular transition from traditional to problem-based about 15 years ago and earned the school the distinction of being named one of eight models for the future of learning by the Carnegie Foundation for the Advancement of Learning. At North Dakota, like at VTC, the smaller class sizes were suitable for the educational format.

"It focuses on adult-learning theory," Vari said of problem-based learning, adding that it gives students the flexibility to uncover what they need to learn about the human body without sitting in a lecture hall. "This is so much more applicable. They're constantly refreshing their thirst for knowledge."

Vari said the differences were visible right away. Prior to problem-based learning, first-year students were "bored" in lectures, he said. After the switch, "We saw these students really actively engaged and enthused," he said.

Students excelled at teaching their fellow students, displaying the intellectual prowess that got them into medical school in the first place. "That was a huge surprise, an appreciation of how talented they are," Vari said. "They want to learn, and they don't want to waste their time."

All the while, through discovery, research, and teamwork, VTC students will embrace the school's four value domains: basic sciences, clinical sciences, interprofessionalism, and research (see sidebar on the research institute).

So much planning, so much excitement. Now it's time to deliver, as Johnson put it. "We've put together what I think is an excellent curriculum that will stand the test of time and train students for the future of medicine," Johnson said.

To find additional stories, photos and videos about VTC, go to www.vtmagazine.vt.edu.

A recipe for a research institute

BY JESSE TUEL

One part world-class research university, one part dynamic network of health care providers, one part new school of medicine, and one part new biomedical research institute.

This is the Virginia Tech Carilion (VTC) School of Medicine and Research Institute. Launched this fall, the research institute will eventually house hundreds of researchers while giving Virginia Tech and VTC students an outlet for conducting primary research of their own.

As a graduation requirement, medical students must produce a publishable, hypothesis-driven research project, satisfying one of the school's four value domains. The formula means students and faculty members will carve out the time for meaningful involvement in research. "It's not just going to be dabbling," said Michael Friedlander, the institute's founding executive director. "They're going to be fully engaged in research. Just as they learn to work as part of a health care delivery team, the medical students will also learn to work in interdisciplinary research teams—with biomedical faculty members, Ph.D. students, postdoctoral fellows, laboratory technicians, clinical research coordinators, and undergraduate students."

VTC graduates will leave medical school as "thought leaders"—understanding what makes a good experiment, what a good control is and when one can reach a conclusion. "They'll be a tremendously educated advocates for the benefit of the patient," Friedlander said. "We think this research is really going to make a better doctor."

Cynda Johnson, founding dean of the school of medicine, said research is inseparable from primary practice. Johnson—with 35 years in primary practice and academia—called research the "missing element" in general medical education.

Friedlander aims to have the first wave of seven to nine principle investigators (PIs) in place by the end of the 2010-11 academic year, and each of those PIs will bring or hire researchers for his or her team. The goal is 25-30 PIs, with a range of 250-350 people working on site.

JIM STROUP

Michael Friedlander, the institute's founding executive director

The researchers will work across four broad areas: neurosciences, cancer biology, cardiovascular sciences, and immunology and infectious disease. They'll focus on problems that have the potential for the greatest impact on public health.

For the top researchers Friedlander wants, the institute boasts a new opportunity in a unique partnership. "This is a place used to big-time research," Friedlander said. "It's not like we're starting from scratch." Without the presence of Tech and the Carilion reputation, he said, "it would be a much harder sell."

High-impact medical research is just around the bend—one more point of pride for the university and the region.

CHARLI in charge

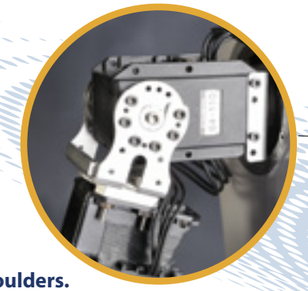
The trailblazing footprint of Virginia Tech's Robotics and Mechanisms Laboratory (RoMeLa)

by Steven Mackay

CHARLI took his first step in the basement of Virginia Tech's Randolph Hall in March 2010. His creators—students at RoMeLa—stood by in case the robot fell. They were anxious. Hopeful. CHARLI, short for Cognitive Humanoid Autonomous Robot with Learning Intelligence, took a few halting but upright steps. Then came to a stop. Cheers erupted. CHARLI's main architect, graduate student Jeakweon "J.K." Han, exhaled an audible "Whew!" Dennis Hong, director of RoMeLa, shouted: "One small step for a robot, one giant leap for robotics!" Everyone laughed. But Hong's off-the-cuff joke was prophetic. CHARLI—the first, full-sized autonomous walking humanoid robot built inside the United States—has gone over the moon with the robotics world. He introduced a "Cool Jobs" panel featuring Hong at the 2010 World Science Festival in New York; wowed thousands of spectators at Hong Kong's 350,000-square-foot Park Central Mall; made a splash debut at the 2010 Singapore RoboCup Tournament, winning third in his division; and landed on the August cover of *Popular Science.* Not bad for a 5-month-old. There's been a hiccup along the way, as to be expected with breaking-edge technology: CHARLI popped the main balance sensor in Singapore and crashed to the ground after becoming disoriented. But that won't stop him—and Virginia Tech—from helping lead the way in robotics research in the United States.

What makes CHARLI go?

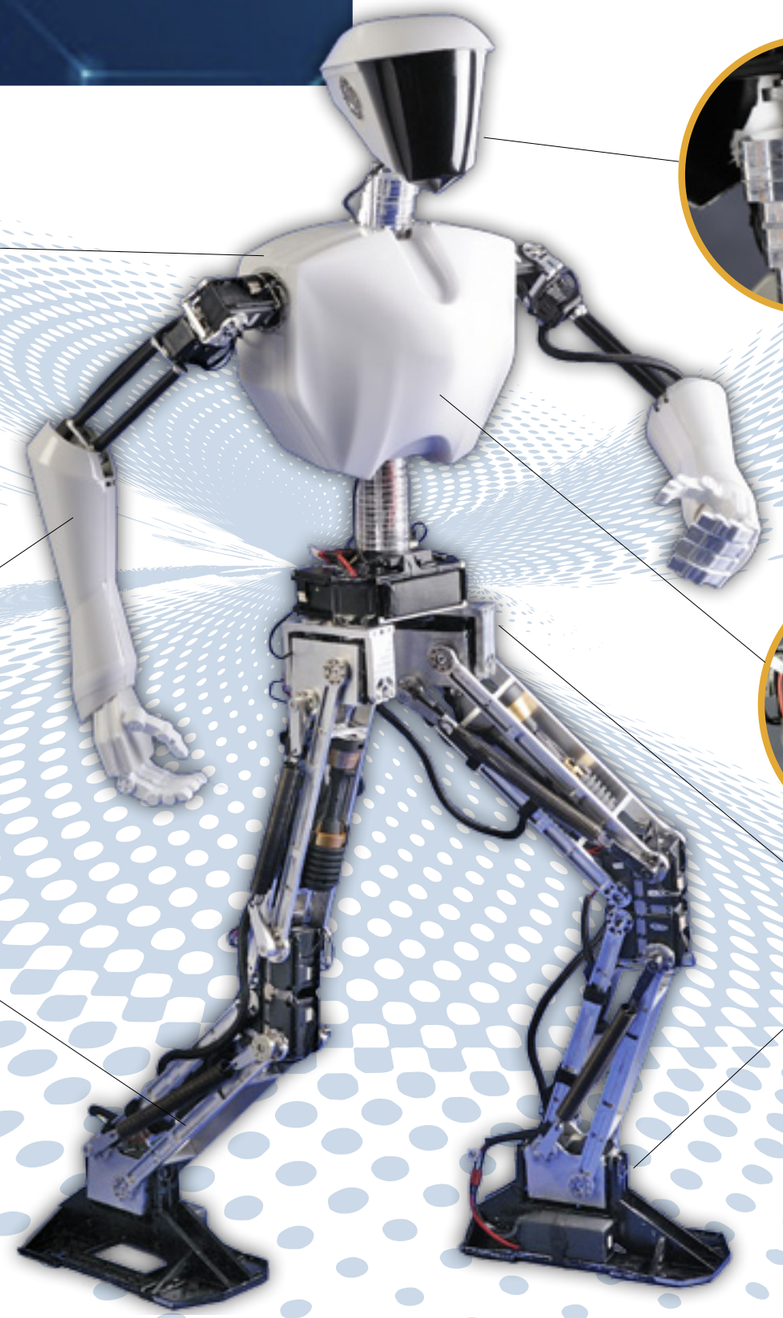
Here's a quick breakdown on just what makes CHARLI tick … and kick. Before you ask, CHARLI has no heart. Sorry. (A trip to Oz, anyone?)



Shoulders. Exposed off-the-shelf servo-actuators move CHARLI's arms. Each computerized actuator unit controls its own motions, reporting to and receiving commands from the robot's main brain.

Arms/Hands. Carbon-fiber tubes and custom-milled aluminum parts for structure make for a strong, but lightweight, body. Note the use of lighter, thinner areas (upper arm) balancing out heavier, thicker areas (forearm, hands). The hands, for now, are dummy placeholders with limited grip function.

Legs/Feet. A clever system of mechanical linkages swing in tandem to generate the motion for CHARLI to walk. Springs in his legs balance the gravitational load, support CHARLI's upper body weight, and lift his legs. His feet must always be parallel to the ground, which limits his possible poses and motion.

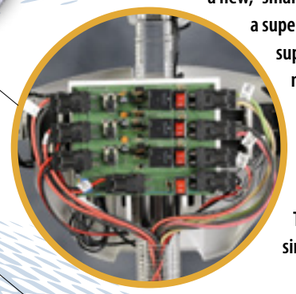


PHOTOS BY JIM STROUP

Head. CHARLI has a brain, but not here. Rather, his head is comprised of, depending on the task, one or two off-the-shelf USB webcams. These are the robot's main sensors to help him perceive the world, figuring out his orientation and position within a given space. He does this using complex algorithms that perceive colors and shapes. On a miniature soccer field, CHARLI can follow the pattern of the field's painted lines. When he targets an orange ball to kick, he is using computer algorithms that identify "round" and "orange." A sophisticated autonomous behavior program then kicks in, figuratively and literally.

Neck/Spine. CHARLI can move his head on a three-axle rotation, unique for most robots. This allows him to display "emotion," such as curiosity or sadness. The S-shaped spine, based on humans', is made of carbon-fiber rods. The rods are held together by clear acrylic disks to protect the scores of wires that comprise CHARLI's central nervous system.

Chest. Here lies CHARLI's "brain," a single-board computer using a Linux operating system. LabVIEW software performs most of the complex computational tasks, such as walking and balancing, vision interpretation, and action commands. CHARLI soon will receive a new, "smarter" brain in the form of a super-fast computing unit, supplied by National Instruments. Also here: two wireless communication systems used for monitoring and for remote control when needed. The chest covering is a simple plastic shell.



Power. Battery cells hidden in the feet (for actuators and motors in the legs and arms) and between the hips (for vital computing operations and electronics) provide CHARLI's power. The lithium-polymer battery packs can explode if incorrectly charged or even discharged at an abnormal rate, hence the power monitor unit in the chest. Also between CHARLI's hips is an inertial measurement unit, providing the robot's sense of balance and orientation.

KELSEY KRADEL

Mechanical engineering doctoral student Jeakweon "J.K." Han of South Korea is the main architect of CHARLI. His wife, Younseal Eum, is an artist who helped design CHARLI's slick look.

CHARLI and the future of RoMeLa at Virginia Tech

The students at Virginia Tech's Robotics and Mechanisms Laboratory (RoMeLa) have built some cool robots in the past several years, and CHARLI is by far the tops.

But cool goes only so far. And CHARLI is much more.

Jeakweon "J.K". Han, CHARLI's main architect and a doctoral student from Seoul, Korea, always has seen robots as helpful. "When I was a young child in Korea, I was always watching 'Astro Boy' on TV, a show about this heroic robot helping and protecting people," he said. "I want people to accept robots as their companions, not as a 'Terminator.'"

Dennis Hong, director of RoMeLa, sees future incarnations for CHARLI as necessary to everyday life. Eventually, CHARLIs could help care for elderly parents or perform jobs too dangerous for people, such as fighting fires on naval ships. The U.S. Navy is expected this fall to give RoMeLa $3 million to continue building CHARLI-H (as in Heavyweight), a robot able to navigate complex surroundings and endure harsh conditions. Work is also under way on CHARLI-L2 (L for Lightweight), an improved version of the first.

IMPASS

HyDRAS

CHARLI is proof, yet again, of Hong's and RoMeLa's leadership in U.S. robotics research. Worldwide, the field is dominated by South Korea and Japan. In a recent *Popular Science* cover story on robotics, editors dubbed CHARLI "the loneliest humanoid in America." Hong hopes to openly compete with these robotic superpowers with ingenuity as his rocket.

DARwIn IV

"CHARLI-L is just the start, to quickly get our foot into this exclusive international club of humanoid robots," Hong said. "Though we still have a long way to go to catch up, RoMeLa always approaches the problem in fresh, new, innovative ways, and we believe we can create new solutions that can leapfrog the 'traditional' approaches."

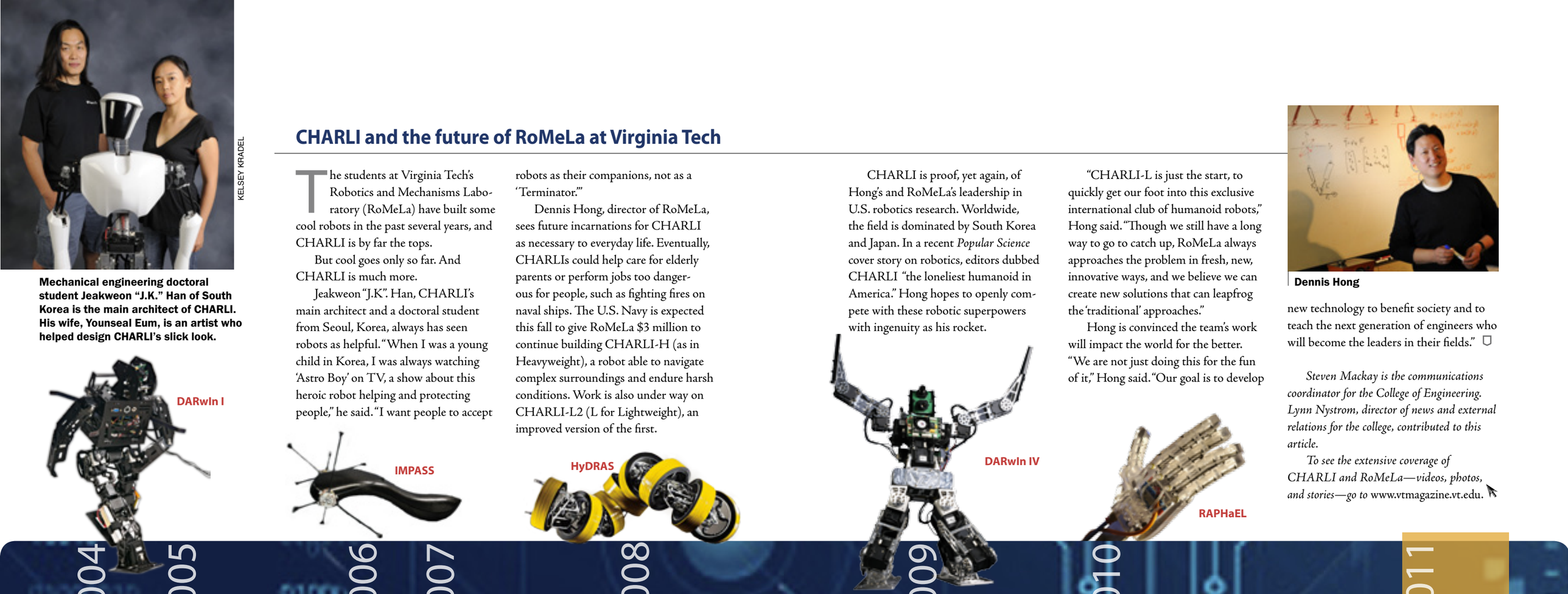
Hong is convinced the team's work will impact the world for the better. "We are not just doing this for the fun of it," Hong said. "Our goal is to develop new technology to benefit society and to teach the next generation of engineers who will become the leaders in their fields."

RAPHaEL

Dennis Hong

Steven Mackay is the communications coordinator for the College of Engineering. Lynn Nystrom, director of news and external relations for the college, contributed to this article.

To see the extensive coverage of CHARLI and RoMeLa—videos, photos, and stories—go to www.vtmagazine.vt.edu.



2004

Hong starts RoMeLa after joining Tech in 2003. Work begins on miniature humanoid robot DARwIn.

2005

June
Participating in NASA research program, Hong begins work on spider-like MARS.

July
Work begins on spoke-wheel robot, IMPASS, with $346,000 grant from National Science Foundation (NSF).

September
RoMeLa sweeps top awards at American Society of Mechanical Engineers robotics conference.

December
DARwIn I stands up and walks with two legs.

2006

December
Goooalll! DARwIn II scores in soccer for the first time fully autonomously.

2007

March
Hong receives $400,000 NSF CAREER Award and develops Whole Skin Locomotion robot, a.k.a. the "amoeba" robot.

July
RoMeLa is the only American robotics team invited to RoboCup's humanoid division.

August
DARwIn sweeps top three awards at NIWeek 2007, sponsored by National Instruments; STriDER debuts and wins best paper award at International Conference on Advanced Robotics.

2008

October
RoMeLa wins $2.5 million multi-university grant from NSF to kick-start the humanoid robotics research program in United States.

November
Team VictorTango wins third place and $500,000 at DARPA (Defense Advanced Research Projects Agency) Urban Challenge with Odin, an autonomous SUV. HyDRAS debuts.

March
Full work begins on Blind Driver Challenge (BDC) project, proposed by National Federation of the Blind (NFB).

April
CIRCA wins at Compressed Air and Gas Institute (CAGI) Innovation Awards.

June
CHARLI project announced. Seed funding provided by Virginia Tech Student Engineers Council.

2009

September
NFB gives RoMeLa grant to build first BDC vehicle.

December
HyDRAS wins at International Capstone Design Fair.

February
DARwIn IV debuts, with the ability to jump and run.

April
RAPHaEL debuts and wins a number of top awards, including CAGI Innovation Award.

July
BDC vehicle debuts at youth camp run by NFB. Featured in *Washington Post*. At RoboCup, DARwIn 4's cameras fail.

November
Hong named to *Popular Science's* "Brilliant 10 of 2009." Appears at TEDxNASA event; presentation becomes video hit.

December
Tech selected to build battlefield robots for 2010 Multi-Autonomous Ground-robotic International Challenge (MAGIC).

2010

January
RoMeLa wins $1.2 million multi-university grant to develop open-source miniature humanoid robots.

March
CHARLI takes first steps. RoMeLa wins $6 million grant with Drexel University for advancing the capabilities of humanoid robots.

April
RoMeLa receives $1.5 million grant from NFB to develop next-generation BDC vehicle. Partners with TORC Technologies.

June
CHARLI appears at New York's World Science Festival and Hong Kong's Park Central Mall. Later suffers major fall at RoboCup in Singapore.

June
RoMeLa purchases two Ford Escapes to build next-generation BDC cars.

July/August
Popular Science cover features CHARLI. Meanwhile, Tech fails to make MAGIC finals cut.

August
BDC vehicle wins Application of the Year award at NIWeek. Work on CHARLI-L2 begins.

October
U.S. Navy expected to award $3 million grant to help build CHARLI-H, as SAFFiR.

December
Open-source version of DARwIn for research and education to be unveiled at Humanoids 2010 international conference. Robotis Co. will sell robot to public.

2011

January
New BDC Fords to debut publicly at Daytona International Speedway's Rolex 24 race.

February/March
Hong to speak at international TED (Technology Entertainment and Design) event.

Robot Acronyms

CHARLI: Cognitive Humanoid Autonomous Robot with Learning Intelligence
CIRCA: Climbing Inspection Robot with Compressed Air
DARwIn: Dynamic Anthropomorphic Robot with Intelligence
HyDRAS: Hyper-redundant Discrete Robotic Articulated Serpentine
IMPASS: Intelligent Mobility Platform with Active Spoke System
MARS: Multi Appendage Robotic System
RAPHaEL: Robotic Air Powered Hand with Elastic Ligaments
SAFFiR: Shipboard Autonomous Fire Fighting Robot
STriDER: Self-excited Tripedal Dynamic Experimental Robot

Learn more at www.romela.org.

Helping Virginia take flight

Virginia Tech and the economic health of the commonwealth

BY DENISE YOUNG

A new chapter in economic growth for the commonwealth has begun.

Through a collaborative effort that includes partners from Virginia Tech, the University of Virginia (U.Va.), the Virginia Community College System (VCCS), and state and regional governments, a Rolls-Royce jet-engine plant, located on a 1,000-acre site in Prince George County, Va., is set to open in 2011. The factory will employ 140 people initially, with some 500 employees expected as site development continues. The facility is the fruit of a multifaceted and well-wrought team effort.

PHOTOS COURTESY OF ROLLS-ROYCE

In 2007, Virginia faced stiff competition as one of eight states vying to land the Rolls-Royce plant. Virginia Tech, U.Va., and VCCS were on board from day one, offering the company the benefits of faculty research expertise and the ability to educate a skilled workforce. The company would go on to forge a strong bond with VCCS, particularly John Tyler Community College in Prince George, to provide worker training, especially in advanced manufacturing.

A number of factors led to the company's decision to build the plant in Virginia, said Brian Warner, Rolls-Royce lead for the Commonwealth Center for Advanced Manufacturing (CCAM), a joint research center to be built adjacent to the Rolls-Royce facility and staffed by Tech and U.Va. researchers. The commonwealth's quality of life, strong infrastructure, innovative approach to research and education, commitment to workforce development through the community college system, and economic incentives all played a role in the decision.

The greatest instrument of democracy

Thomas Jefferson once said, "I look to the diffusion of light and education as the resource to be relied on for ameliorating the condition, promoting the virtue, and advancing the happiness of man." Nowhere is the Jeffersonian ideal of education more vibrantly realized than in Virginia. As the senior land-grant university in the state, Virginia Tech is fulfilling a role it has played since the school first opened its doors.

"It's a 21st-century definition of what we're doing, but this project is a reflection of our historic mission of helping to embrace society's problems and helping to provide solutions," said Virginia Tech President Charles W. Steger.

"The Rolls-Royce project is a great example of that commitment," agreed Virginia Tech Vice President of Outreach and International Affairs John Dooley. "This project will certainly engage the scientists at Virginia Tech around the business interests of Rolls-Royce and their suppliers. Through this partnership, we will develop a new generation of technologies that will be used in Rolls-Royce equipment."

Virginia Tech isn't alone in its ongoing efforts. Universities and community colleges throughout the state also strive to make Virginia a prosperous place to work and live. Barry Johnson, associate dean for research in U.Va.'s School of Engineering and Applied Science, said that despite the oft-publicized rivalry between Tech and U.Va., the two universities work together constantly to help the commonwealth and society as a whole.

"A lot of people tease us about being competitors all the time, but the reality is that we frequently have faculty teaming up on research projects. [Collaboration] happens every day at the faculty level. There's a natural relationship there. We have Virginia Tech graduates working in our school of engineering, and you have U.Va. [alumni] working [at Virginia Tech]. We're strengthening those relationships and growing them," said Johnson.

One need not be an academic researcher or a titan of industry to reap the rewards of these partnerships. Perhaps the greatest benefit is to regional communities that experience job growth. And endeavors like the Rolls-Royce project create more jobs than just those at the plant. They have a "multiplier effect," according to Don Leo, associate dean of research and graduate studies in Virginia Tech's College of Engineering. For every advanced-manufacturing job, three or four others are created in

Artist's rendering of the first buildings at Crosspointe, Rolls-Royce's new aerospace facility in Prince George County, Va.

the community. These jobs include construction, food services, and hotel and retail positions.

Job growth takes other forms, noted Vandy Jones, director of economic development for the City of Petersburg. "The research and development that will come out of the project will add to the knowledge base of this region, and it will also give an opportunity for folks to enhance their knowledge and job skills, which could translate to other opportunities."

Rescuing technologies from the 'valley of death'

The plant is a key component in a far-reaching idea with a big impact. Two centers will supply high-end research that will help Rolls-Royce, its suppliers, and other big players in industry solve complex problems. By utilizing the skills and ingenuity of faculty and students from both Tech and U.Va., these two centers will supply implementable technologies to the fields.

"What makes it difficult for large companies to solve high-end manufacturing issues is that we have to focus on production day in and day out. Having this equipment in research centers will allow us to work toward solutions to those problems without putting a halt to production," said Warner, the Rolls-Royce lead.

With faculty expertise in fields ranging from thermal barrier coatings to turbomachinery, Tech and U.Va. can put their knowledge to work solving problems that will have real-world application for Rolls-Royce and others in the industry. "Universities are very good at developing new technologies, and companies are very good at developing new products, but a lot of times what happens is that technologies developed at universities don't make it into the product stage," said Johnson, who calls the gap between lab-prototype and production the "valley of death" for technologies.

"Our long-standing activity in advanced manufacturing is extremely valuable," said Richard Benson, dean of Virginia Tech's College of Engineering. "Because of our expertise, we are able to move quickly into research projects that Rolls-Royce and others will find interesting."

The first center to emerge from this collaboration is CCAM. Based on a unique business model, CCAM will be housed in a research facility on the Rolls-Royce site and staffed by Virginia Tech and U.Va. It will involve not only Rolls-Royce, but other high-end manufacturing companies of the same stature, including those involved in the shipbuilding, automotive, energy, and transportation industries.

"Our vision is for this center to have positive economic impact in a number of ways. Our business model indicates that after a 10-year period, CCAM itself might employ a total of 50 full-time employees with an additional 50 to 100 part-time employees. In addition, we want CCAM to be viewed as a competitive advantage for other companies to locate in Virginia and to locate in the Petersburg area," Leo said.

The second, the Commonwealth Center for Aerospace Propulsion Systems (CCAPS), more closely resembles the traditional research model found on campuses. Rolls-Royce will provide funding for professorships, graduate assistantships, and upgrades of lab equipment for research, with additional funding provided by the state. Total funding in the first year is about $1.5 million, equally spread between the two universities, said Johnson.

In the five-year period from 2010-14, the state will contribute $40 million, said Jeff Anderson, executive director of the Virginia Economic Development Partnership, which led the negotiation process. By upgrading labs and creating internships and professorships, this funding ensures that Virginia's higher-education research aligns with the companies that have a presence in the state or that are being recruited. "We want to make sure they understand that, beyond our ability to meet their site and labor needs, we have the ability to meet their needs through these long-term partnerships," Anderson said.

JOHN MCCORMICK

Mechanical engineering professors and doctoral students are collaborating with Rolls-Royce to study the effects of hot ash on jet aircraft engines. (From left) Sukhjinder Singh, Colin Reagle, Wing Ng, the Chris Kraft Professor of Mechanical Engineering; Jacob Delimont, and Associate Professor of Mechanical Engineering Srinath Ekkad, on a runway at the Virginia Tech Montgomery Executive Airport.

In Tech's College of Engineering, Romesh Batra, the Clifton C. Garvin Professor of Engineering Science and Mechanics, and Gary Pickrell, associate professor of materials science and engineering, are working on intelligent software and experimental programs to help in the development of advanced coating systems to ensure uniform consistency in application of coatings.

"This should save Rolls-Royce and other companies engaged in similar processes considerable sums of money," said Batra. "The tools developed will also be applicable to many special processes, including thermal spraying, painting, and aluminizing, and will attract high-tech companies to Virginia's CCAM." Students at the postdoctoral, graduate, and undergraduate levels will join Batra and Pickrell in their research.

"Without this partnership, the personnel involved—students and faculty—would not have the benefit of practical experience that Rolls-Royce brings to the table," Batra said. "This will help professors bring to the classroom problems industries are facing so students will be prepared to meet the challenges of more advanced processes that will involve very small tolerances."

Wing Ng, the Chris Kraft Professor of Mechanical Engineering in Tech's College of Engineering, is undertaking CCAPS-related research to study volcanic ash and sand injections into aircraft turbine engines, a research problem with which Rolls-Royce specifically requested help. The William S. Cross Professor of Mechanical Engineering, Danesh Tafti, Associate Professor of Mechanical Engineering Srinath Ekkad, and Ph.D. student Sukhjinder Singh have joined Ng on the project, which began in 2010. Rolls-Royce is donating the necessary equipment to Virginia Tech for this research, and cost-sharing with the state.

"If sand and ash go into the engine when it's hot, they'll fuse to the parts of the engine and cause an in-flight shutdown," said Ng. "[The research] will help both commercial and military aircrafts for safety and efficiency of the airplane."

Not only will the team's work be valuable to Rolls-Royce—particularly its implications for military jet engines functioning in a desert environment—but the opportunity also helps Virginia Tech and its faculty and students. "It is a tremendous benefit for us to be so visible and to work on practical engineering problems," Ng said. "It's good for students in terms of training and job placement, and it's good for the faculty for international visibility."

Mechanical engineering doctoral students Jacob Delimont and Colin Reagle, both working with Ng on the study, said the opportunity to delve into an issue with practical applications gives them experience that purely theoretical research would not.

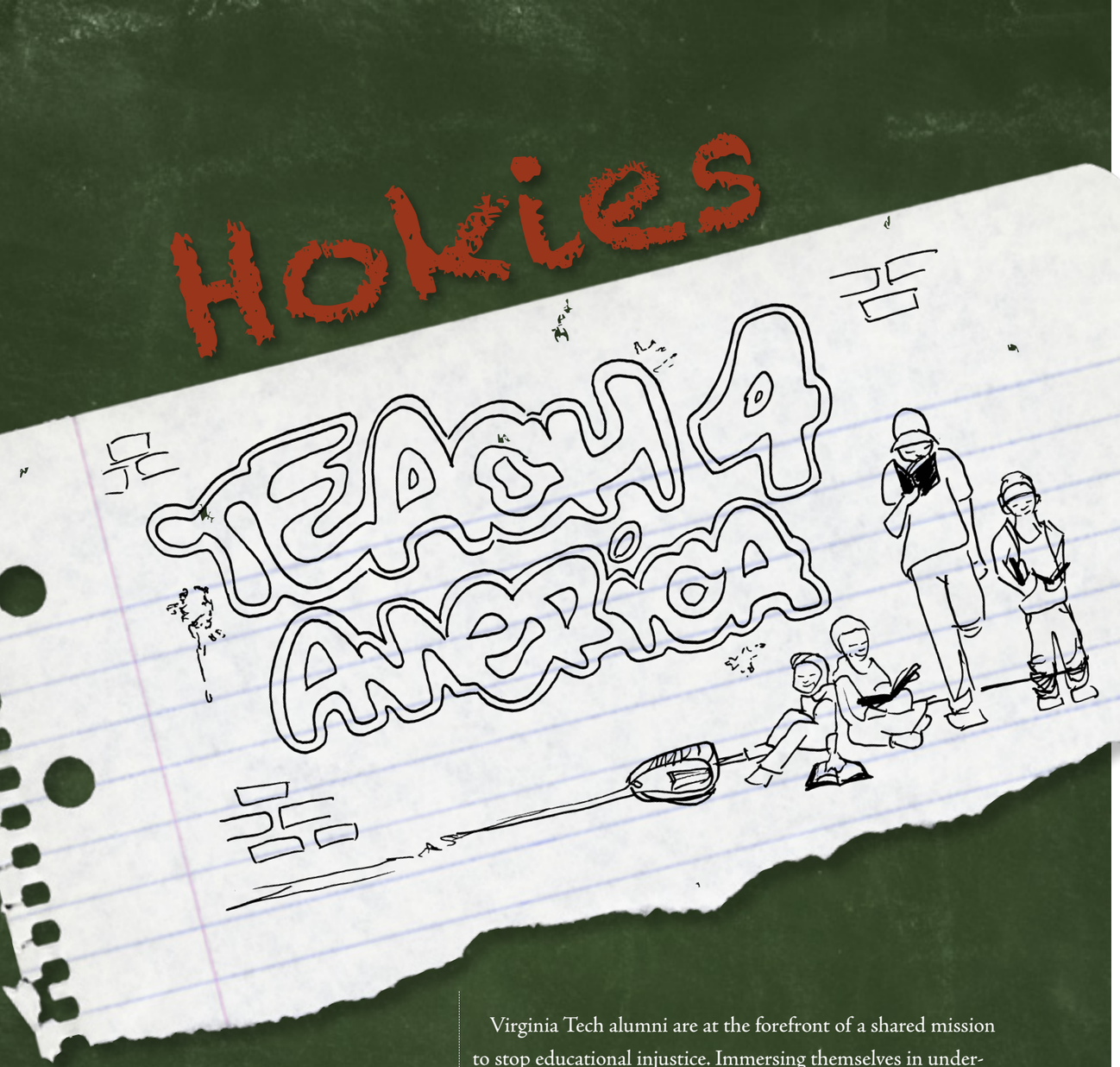
"Industry wants results; they want something they can apply with a certain amount of money and within a certain timeframe. Scholarship is about research and papers. This project is a balance between those," said Reagle.

"It has given us an industry problem … that needs to be solved," said Delimont. "The end goal of our education is to solve these problems."

Economic impact, part of Tech's core land-grant mission, is nothing new for the university. Benson said he envisions that the collaboration's long-term benefits for Virginia's economic vitality will be felt across the commonwealth.

Perhaps one day, Rolls-Royce suppliers and related start-up companies will fan out across Virginia, from the mountains to the coast. It's a flight path for all Virginians, and Tech is perfectly suited to be in the cockpit.

Hokies



The learning curve

by Meaghan Hinder '10

illustration by Kyle Waldrop '11

Virginia Tech alumni are at the forefront of a shared mission to stop educational injustice. Immersing themselves in underprivileged communities through Teach For America (TFA), a nonprofit organization devoted to expanding scholastic opportunity, Hokies are confronting the gap in achievement.

A disturbing reality exists in this nation that a child's birthplace too often determines the quality of his or her education. According to TFA, 9-year-olds in low-income communities are three grade levels below those residing in high-income areas, and only 50 percent will graduate from high school.

In places where children may be sent to school without breakfast, Tech alumni are among a prestigious teaching corps who instills a hunger for another basic need their students are deprived of: knowledge. These individuals willingly accept some of the hardest jobs imaginable and learn about themselves on the journey.

"Service is the rent you pay for living," said Nichole Prickett (human resource management '08), citing an often-quoted phrase on service. Prickett has taught special education in Atlanta since 2008. "It's not fair that these children are [deprived of] equal accessibility because of where they live. We're giving them the tools they need to become self-functioning adults, self-sufficient contributors to society." Prickett's mentality is the framework of TFA's mission to stop educational inequity.

"The need for qualified teachers is undeniably one of the biggest needs in the country," said Kelly Mason (political science '10), recently stationed in Colorado for her first year of teaching.

TFA is one step ahead in addressing this need. An impressive 65 percent of teachers exceed their two-year service obligation and continue to work full-time in the field of education.

"No matter what I do after this, it's going to be focused on education, which is the fundamental stone for any society to succeed. It will be an attempt to show the world that we are all the same," said Adnan Barqawi (business management '09), a second-year math and science teacher in the Mississippi Delta region. The 2009 Undergraduate Leader of the Year was the first Middle-Eastern, civilian-track cadet to serve as regimental commander of the Virginia Tech Corps of Cadets.

COURTESY PHOTO

Nichole Prickett '08 in her Atlanta classroom.

"Service is the rent you pay for living."

Graduating college students are carefully selected to commit to two years of service in regions where there is a demonstrated gap in academic achievement and where the organization receives the community and school district support corps teachers need to be effective in the classroom.

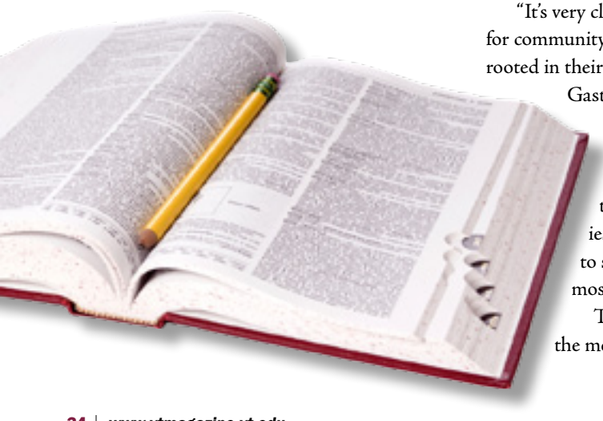
According to the U.S. Department of Education, newly hired teachers in poor urban and rural areas are often among the least prepared and most inadequately supported. "We have to provide these students with what they need," said Mason, a special-education teacher at Laredo Elementary School in Aurora, Colo. "We're creating a system with more transparencies so the problem can expose itself."

The opportunity to teach for America does not come easily. In 2010, 12 percent of all seniors at Ivy League schools applied, and a record total of 46,000 applications came in from more than 350 colleges and universities. Nationally, only 12 percent of applicants made the cut, and just under 10 percent accepted invitations to become members of the teaching corps, setting the bar higher than ever before.

The organization addresses the dire need for highly qualified teachers through meticulous examination of each applicant. "We select exceptional individuals who demonstrate past leadership and achievement, persevere in the face of challenges, exhibit strong critical thinking, have the ability to influence and motivate others, possess strong organizational skills, understand and work relentlessly in pursuit of our vision, and

have respect for students and families in low-income communities," said Kaitlin Gastrock, TFA spokeswoman.

About 3 percent of Tech's most-recent graduating class applied for teaching positions, and 14 Hokies were chosen to join the teaching corps for their first year. Eighteen Hokies are in their second year of teaching, while another 18 have completed the program, according to the organization.



"Arriving here has made me realize that all of this was the right decision," Mason said. "It's an adventure in so many ways. … Yes, I want teaching to be my career, but this is so much more." Service is nothing new to the Kappa Delta sister. She participated in numerous volunteer opportunities at Tech and continues her selfless mission in the classroom. "This is how I want to do it, and this is who I want to do it for."

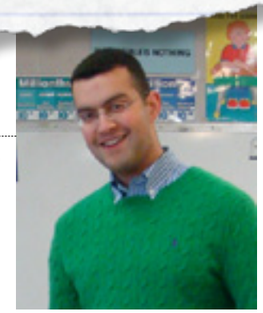
"It's very clear that their passion for community service and education is rooted in their Virginia Tech experience," Gastrock said. "Their accomplishments in the classroom speak to how well the university prepares their graduates. The Hokies are among many working to solve one of our nation's most pressing problems."

Tech teachers soon grasp the meaning of the statistics Gastrock cites—that only half of their students are expected to graduate from high school, and just one in 10 will graduate from college—and the numbers take on a deeper meaning.

"Your opinion and your views change once you're in the classroom," said Prickett, who plans to see her eighth-graders off to high school next spring after teaching three years at Jean Childs Young Middle School. "It's no longer just the stats. It's not 50 percent anymore. It's *my* kids, *my* students, *my* families."

TFA reaches 39 regions in the United States, chosen on the basis of community and school support and other factors, such as a state's alternate route to teacher licensure. Barqawi, Mason, Prickett, and Gina Xenakis (M.S. marketing research '09), a technology and social studies teacher in New York City, are among many who partner with a local university to earn their master's in education while teaching.

"Living a life that matters is what to strive for. It's not a matter of circumstance but of choice."



Adnan Barqawi '09

The weight of responsibility, reality of poverty, and transition to a new home can be emotionally taxing on the corps. A strong network of support, which includes a transition team at each placement site, becomes a necessity.

"It was definitely not hard to find a sense of belonging," Barqawi said. "After all, we're all unified by the same mission. It's so rewarding to be around people who are very well accomplished, yet have dedicated years of their life to service. Corps come from all walks of life; you have the Ivy League grads and the small-school grads. It's just amazing when you bring talent together."

Research suggests that the talent level has a big impact in the classroom. The University of North Carolina (UNC) at Chapel Hill's Carolina Institute for Public Policy recently published a study testing the effectiveness of different pathways into teaching, comparing TFA-trained teachers to graduates of the UNC teacher-preparation system, the state's leading provider of teachers. The study found that TFA "represents an opportunity for UNC and North Carolina to learn and improve" and recommended that UNC identify elements of the TFA model that would be "portable and scalable" to UNC's preparation programs.

Another study, *The Effects of Teach For America on Students*, conducted by Mathematica Policy Research Inc., discovered that "corps members made more progress in a year in both reading and math then would typically be expected," and researchers observed that within this particular data set, students "attained significantly greater gains in math compared with students of other teachers, including veteran and certified teachers."

Along with the impact on schoolchildren, the organization also exposes its teachers to powerful realities that may change their worldviews. "I very quickly learned that being there for them is the most prized gift you could ever give them," said Barqawi. "'You can do it!' are words they've never heard before."

"Once you get in the classroom, it's no longer about you anymore. It's about the kids, the community, the bigger picture, [as opposed to] the 'me' mentality you had during college," Prickett said.

In other words, the teachers are learning, too. Barqawi shared an unattributed quote he stumbled across on the Web, which says, in part:

What will matter is not what you bought but what you built, not what you got but what you gave.

What will matter is not your success but your significance.

What will matter is not what you learned but what you taught.

"This is what I've learned," Barqawi said. "Living a life that matters is what to strive for. It's not a matter of circumstance but of choice."

Professor profile, continued from page 15

There he discovered a certain mental agility that allowed him to quickly assimilate concepts outside his immediate discipline and apply them to his own work. This gift, along with a work ethic that often spurred him to rise at 4 a.m. to begin working from home, means that the applied mechanician and mathematician who ended up in material behavior has few peers in his field.

"If we are asked to choose the three most distinguished researchers in the area of engineering mechanics who have made the most impact in the field during the past two decades, Dr. Batra, in my opinion, will make this list. His research shows creativity, relevance, and diversity," said the University of Maryland's Alfred Gresso Professor Inderjit Chopra in the SCHEV nomination materials.

Batra has led teams that improved the design of different types of armors such as bullet-proof vests, tank walls, and shields to protect vehicles against improvised explosive devices. He has characterized carbon nanotubes for designing lighter and more-fuel-efficient planes. He has studied micro-electro-mechanical systems that open up car air bags and smart materials that monitor their own vibrations and make car rides quieter and smoother.

Not surprisingly, the paper trail is astounding. Batra's publication rate of 15 refereed journal articles per year is five times the average in the College of Engineering. He was recently selected for inclusion on *www.ISIHighlyCited.com* because of his exceptional citation count in the field, a honor shared with less than one-half of 1 percent of all publishing authors.

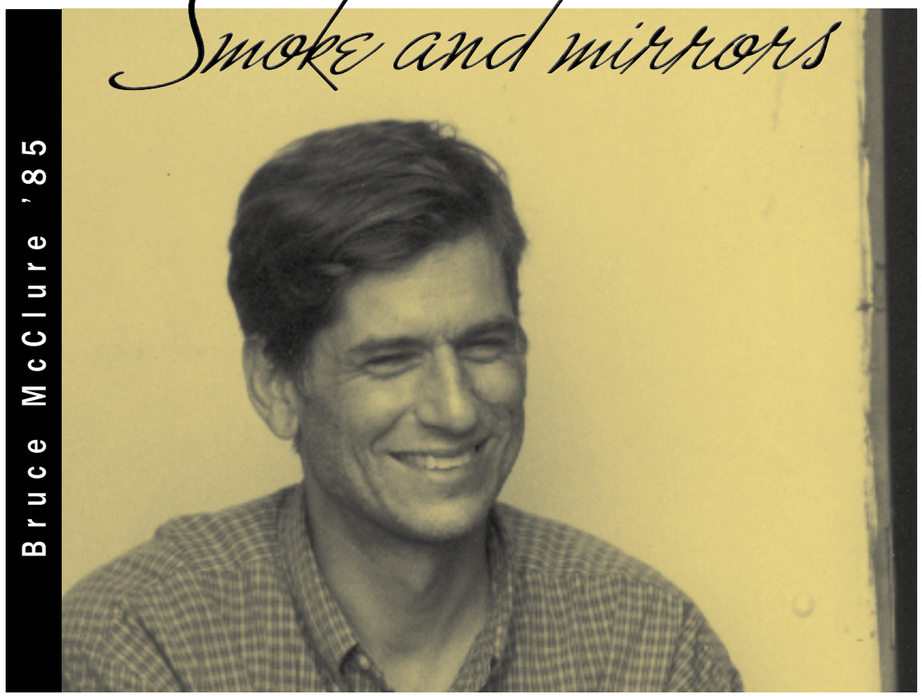
The history of his discipline may be at his fingertips, but the unknown future is what keeps him going. Asked about the last time he was confounded by a problem, Batra had an unexpected answer.

"It happens every time," he said. "The kinds of problems keep on changing. It really happens every day. Otherwise, life would be boring."

Lynn Nystrom, director of news and external relations for the College of Engineering, contributed to this article.

To read more about Batra, visit www.vtmagazine.vt.edu.

JIM STROUP



ROBIN MARTIN

Smoke and mirrors

Performance art bends the senses

BY DENISE YOUNG

In the labyrinth of memory, a group of teenagers enters a cave; each blows out his carbide lamp and allows pure darkness to engulf him. Air rushes against their faces like phantoms. A trickle of water drips haunting notes in the quietude. From such sensations, Bruce McClure (architecture '85) draws the inspiration for his work.

"I'd first say that [my work] comes from a condition of imaginary privation, and then being alone and wanting to get out into the world," said McClure, a draftsman-slash-artist who counts among his most influential experiences his time at a Boy Scout camp in Goshen, Va., where he and his fellow staff members explored local caves. "In order to escape the limits of your own reach, you might turn on the light. I think that's a pretty good analogy for where I get my ideas."

McClure calls his work "projection performance." His tools include not brushes and canvas but those of cinema—projectors, shuttered lamplights, exciter bulbs, the optical sound system, and minimal amounts of film. In the art world, McClure's work has won major recognition. He's been in two Whitney Biennial exhibitions and received the Herb Alpert Award, the latter of which includes a $75,000 prize.

McClure avoids the words "art" and "artist" for the archetypical images they conjure up: museums and the artist who walks away from the work he or she creates. "I don't spend a lot of time paying attention to what other people are doing because I realize what I'm doing is its own sort of creature," he said. "I always believed in trying to stay outside of certain definitions. But I thought I should have a job, go into an office and work nine to five, and then come home and turn to other pursuits."

McClure's compositions are slow and intense. "It's pretty grueling as far as the audience is concerned." Unlike television shows or films, in which a great deal happens in 30 minutes or a couple hours, McClure's 45-minute to one-hour compositions are akin to walking along a picket fence, running a stick across the pickets while peering through the slots. "The kind of action you see on the screen is very limited. It might be a scene of a bird turning its head, but as the scene repeats itself over and over, there's subtle variation with sound and light."

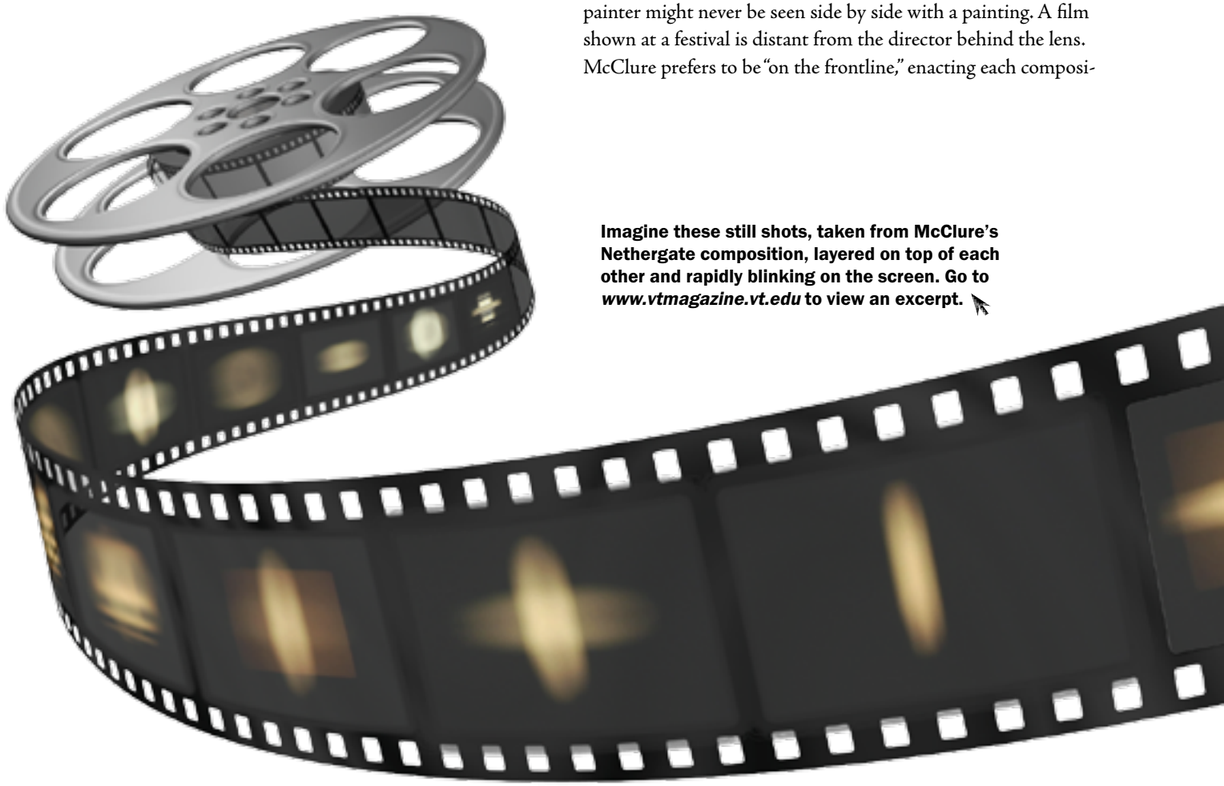
Ray Kass, a retired faculty member in the art department at Virginia Tech, remains close to his former student, attending McClure's exhibitions and bringing him back to campus in 2000 and 2005 to share his work. "Bruce's work deconstructs film itself into its component parts, like working on film as a projected surface as opposed to dealing with a photographic image—skipping the camera," said Kass, who noted that Marcel Duchamp's Rotoreliefs were a major influence on McClure.

McClure's recent performance pieces Ventriloquent Agitators and Pie Pelicane Jesu Dominae will be shown as part of two October performances at the Harvard Film Archive, housed in the Carpenter Center for the Visual Arts.

His inspirations are many and varied: the geometry of weights used in surf fishing, the registry of colors in melting lead, vaudeville, and the rhythm of the metronome. "There are these relationships between what you see and what you hear. It's sort of Pythagorean," he said of the metronome, the movement of which can be interpreted in his work. "You observe the weight on the inverted pendulum and experience tempo as a swing, to and fro, with an attendant ticking sound."

This attention to movement is the center of each piece. There is no focus on plot or character development. Instead, the film is stripped bare and pared down so the focal point is the subtlety, the intentionality of each color, every shadow, sound, flash, or bit of image projected, moving from what McClure calls the mechanic medium to the human medium. "I like movie projectors. I like their shutters and light intervals, the way they work—strobe lights, lighthouses, sirens, and other flashing lights," he said, listing his fascinations.

McClure's work has more in common with a music concert than a showing at an art gallery. It's abstract art brought to life—only instead of a few brushstokes on a canvas, the audience has light on a black backdrop with accompaniment of sound. Live performance is vital to each of McClure's works—a distinction, he noted, from more traditional art forms. A painter might never be seen side by side with a painting. A film shown at a festival is distant from the director behind the lens. McClure prefers to be "on the frontline," enacting each composi-



Imagine these still shots, taken from McClure's Nethergate composition, layered on top of each other and rapidly blinking on the screen. Go to *www.vtmagazine.vt.edu* to view an excerpt.

ROBIN MARTIN

"Instead of being pushed out on an empty stage, I'm down with the people on the floor. I'm throwing light onto the stage, and the speakers are facing me."

tion in the presence of the audience. Yet one difference separates his work from that of the stage performer.

"Picture Judy Garland being pushed out on the stage with the lights pointing at her. She's preparing to perform for a packed house, but all she can see is the light shining on her. Instead of being pushed out on an empty stage, I'm down with the people on the floor. I'm throwing light onto the stage, and the speakers are facing me. It's some sort of mirror image between what we associate with performance and what I call projection performance. I'm throwing a voice out into the room, but from the other side of the proscenium arch," he said.

In his years at Tech, McClure remembers a professor saying that the College of Architecture and Urban Studies "was a place where one was permitted to fail." For McClure, this meant the college became a bastion of free thought where he was able to minimize vocational training in order to soak up the university's offerings in art, literature, philosophy, and film. "It was a good place just for the richness of ideas and so forth," he said. He also appreciated the affordability of Virginia Tech, which left room for exploration. He spent two years abroad in Italy, long enough to study Italian, learn the bus routes, and intern with Ivano Gianola, an architect whose work he admired.

Kass's encouragement influenced McClure at Tech. "Ray's self-appointed mission was to bring some of the culture from New York down to Blacksburg," McClure said. Kass founded the Mountain Lake workshops, at which McClure met many figures of the art-world intelligentsia, including composer John Cage, who would be an influence on him not only at the workshops in 1983, 1988, and 1990, but also when McClure moved to New York after graduation. In New York, Kass introduced McClure to Ed Knowles, a "kindred spirit" who provided McClure with an invaluable three-year architectural stint.

McClure worked as a draftsman until 2008, when two events collided that would shape the next few years of his career. His work at an architectural firm dried up during the economic downturn, and he received the Alpert award. Nominated by an unknown source, McClure was distrustful of packaging something performative into an award application. Though he applied in deference to the nominator, he now has mixed feelings about the role of living off art, finding it fairly labor-intensive for the compensation. "It's one of the most generous awards in the arts, and it's burning a big artistic hole in my professional résumé. As far as being a draftsman is concerned, I haven't worked in two years. I've been traveling around the world, and I have nothing to show for it—not even a trophy. I'm in the 'in-between,' and I don't think the life of an professional artist is for me."

Nevertheless, the experience has provided McClure a sturdy platform for his next jump into the space between the mechanic medium and human medium, wherever the jump takes him. "I became the monster I didn't want to become," he joked, "but it's been good because I got to show a lot of places I wouldn't have otherwise."

The show goes on, this performance artist creating patterns and sounds in the darkness. Perhaps somewhere inside McClure there is still a young man snuffing the light out, allowing the pure shadow to seep under the skin, and turning the lamp on again.

To see a video of one of McClure's compositions, visit www.vtmagazine.vt.edu.

Ringing out the old, bringing in the new

BY ROCK ROSZAK '71

In the 2009-10 academic year, the Virginia Tech Corps of Cadets expanded its reputation in a number of ways, highlighted by its exemplary leader-development program. With another outstanding year of achievement behind us, they're ready to scale new heights in 2010-11.

Virginia Tech Magazine readers met Cadet John Steger in the fall 2009 issue as he was beginning his semester as the regimental commander, charged with leading the regiment of just under 770 cadets. To say that Steger (pronounced "Stay-ger") had a good year would be an understatement. He made personal accountability the watchword of his command policy; if ever a cadet led by example, it was Steger, who excelled in all phases of cadet life—fitness, academics, and leadership.

Steger captained the Virginia Tech Army ROTC's running team in the Army 10-Miler in October, the largest 10-mile race in the world. For the second consecutive year, Virginia Tech's team was the best ROTC team in the nation. On the academic side, Steger graduated with a 3.84 GPA, with a double major in history and political science and a minor in leadership studies, and was named the Outstanding Senior in the College of Liberal Arts and Human Sciences. His leadership was recognized with the Undergraduate Student Leader of the Year Award, the seventh consecutive year the honor has gone to a cadet. He became U.S. Army 2nd Lt. John Steger in May.

The corps had another great year, leading the way on campus in living up to the university motto with more than 7,900 hours of community service.

Overall, the corps had another great year, leading the way on campus in living up to the university motto with more than 7,900 hours of community service. Over the course of the year, the corps surpassed its goal of collecting 500 units of blood for the Red Cross. The cadets, who represent about 3 percent of the undergraduate student body, donated 516 units of blood—17 percent of the total collected at Virginia Tech. Success with service was matched on the academic front: The average spring semester cadet GPA was 3.03, and 395 cadets made the Commandant's List with a 3.0 or better.

The Class of 2014 arrived on campus 350 strong, part of a regiment of 850 cadets, the largest corps since 1969. The incoming class is almost evenly split between in-state and out-of-state students, and females comprise just over 16 percent of the class, continuing the growth of that demographic. The states outside of Virginia with the largest numbers of incoming cadets are Maryland and Pennsylvania. Freshman cadets boast an average GPA of 3.83 and SAT scores of 1223.

The Virginia Tech Corps of Cadets remains a vital program that blends the longest-standing tradition on campus with a top-notch leadership experience.

Col. Rock Roszak '71, U.S. Air Force (retired), is the alumni director for the Virginia Tech Corps of Cadets.

Reviving damaged ground

Soil-remediation expert W. Lee Daniels is one of many talented Virginia Tech faculty members benefiting from donor support.

BY ALBERT RABOTEAU

Landowners in Virginia's Dinwiddie, Greensville, and Sussex counties are letting an Australian mining company dig 20 to 30 feet down into thousands of acres of prime farmland in search of something far more lucrative than any crop: major deposits of titanium and zircon.

Topsoil is scraped up and set aside. Deeper earth that contains the valuable materials—which are used to make products such as paint, suntan lotion, and ceramic glazes—is wetted and run through cyclones and spirals to separate the titanium and zircon from the soil. The soil is returned to the pit, covered with topsoil, and replanted.

In theory, landowners should be able to have the best of both worlds, profiting from their land's mineral riches without losing the ability to farm. In practice, yields on lands mined this way were poor—until W. Lee Daniels (forestry '78, M.S. agronomy '80, Ph.D. agronomy '85), the Thomas B. Hutcheson Jr. Professor of Crop and Soil Environmental Science, helped identify a problem.

"Because of the very heavy compaction in the soil, you have to rip it," said Daniels, referring to a method of loosening the soil many feet down.

Daniels conducted research that led the mining company, Iluka Resources, to start using gigantic tilling machines on the soil that was returned to the original excavations. The practice also includes customized liming and fertilization.

JIM STROUP

"They are now to a point where, with the right protocols, they get back 80 to 85 percent of the pre-mining [agricultural] yield, which is pretty darn good," Daniels said.

So good, in fact, that the Interstate Mining Compact Commission gave a national award to Iluka for its work in Virginia in 2009.

Less-damaging methods of mining

Daniels has been researching how to bring mining-damaged soil back to productive use since the early 1980s, when demand for such knowledge arose alongside stricter environmental regulation.

In the 1990s, Daniels broadened his research to address how to restore damaged wetlands. Companies and landowners rely on his work for practical methods of complying with environmental regulations.

"You cannot view mining or mineral extraction as a totally benign procedure with no impact," Daniels is quick to point out. "But what I have focused on is understanding a [mining] process, figuring out how to work with industry and regulators to minimize the impact during the process, and potentially eliminating off-site impacts."

Daniels began his mining-related research as part of what is now the Powell River Project, a Virginia Tech-led program that puts research into practice in the coalfields of southwestern Virginia. He has researched ways to return thousands of acres of coal-waste piles to productive use and how to address the danger of dissolved salts leaching from the valley fills created in mountaintop-removal mining.

By sharing his expertise with industry, Daniels has improved mining practices. By sharing his expertise in the classroom, he has helped thousands of students understand soil science and management—essential knowledge for agriculture, forestry, and urban-land management.

By sharing his expertise with industry, Daniels has improved mining practices. By sharing his expertise in the classroom, he has helped thousands of students understand soil science and management.

More than 100 students attend his introductory soil science lecture course. He has served on the committees of more than 75 graduate students and has been major advisor for 21 more, including John Michael Schmidt (biological sciences '98, M.S. crop and soil environmental sciences '02), who is now a legislative assistant for U.S. Sen. Russ Feingold of Wisconsin.

"I think he's a great mentor," said Schmidt, who first met Daniels during a high school program at the Powell River Project and later studied under him as both an undergraduate and a graduate student. "He's always approachable and tries to, as much as he can, integrate folks into his lab and look for opportunities for students."

Supporting outstanding faculty

Eleven faculty members were appointed during the 2010 fiscal year to named positions created by donors. More than 40 such positions have been created since July 2003 as part of The Campaign for Virginia Tech: Invent the Future.

A professorship named for his own mentor

In June, Daniels was one of several outstanding faculty members appointed to named professorships—titles that donors create to enhance the ability of extraordinary teachers and researchers to do good work.

His professorship was endowed in 1985 to honor the agronomy department head who died that year. Daniels said the prestigious title will help as he applies for research grants. The Hutcheson professorship also provides discretionary funding that Daniels views as "seed money" for early-stage research projects.

"It helps to support my overall operations," Daniels said of his new title.

But for him this appointment is not just professionally useful. After finishing his master's in 1980, Daniels was working as a research associate on the Powell River Project. It was Hutcheson who steered him into an instructor position in 1982.

Hutcheson also served on Daniels' dissertation committee. He was lobbying for Daniels to join the tenure track, but died of a heart attack just a month before Daniels defended his dissertation in 1985.

Two years later, Daniels became an assistant professor—an opportunity for which he is still grateful to Hutcheson.

"I'm really humbled to be in this position," Daniels said of the professorship named for his mentor. "It means a lot to me."

Albert Raboteau is a writer for University Development.

To learn more about how wetlands are built and how sites affected by coal mining are renewed, go to www.campaign.vt.edu/daniels.

Donors make a difference at Newman Library

Adding a study café may be the most visible improvement that donors have made possible in the Carol M. Newman Library this semester, but it's not the only one.

Six floors up, in a section of the library closed to the public, a high-tech conference room is being installed. For the library's technical services unit, the project—made possible by an anonymous gift—provides much-needed space for meetings and Web-based training sessions.

JOHN MCCORMICK

BY ALBERT RABOTEAU

"Technical services work has changed radically with the Internet, and higher-level technical skills are essential," said Leslie O'Brien, director of the Jean Russell Quible Department of Technical Services. "Training and continuing education, which have always been important, are even more critical now."

O'Brien's department purchases materials, licenses databases and journals, collects usage data, and classifies materials for Addison, the library's catalog. "Everyone benefits from the work of the unit, even though they may not interact with the department directly," said Eileen Hitchingham, dean of university libraries.

Another exciting development for the library is the creation of the Gary Musolf Business Resource Fund—the first library endowment to focus on the needs of one of Virginia Tech's colleges. The fund provides money for materials that support Pamplin College of Business teaching or research.

Gary Musolf (business administration '66), grateful for the library's support of his studies, endowed the fund. "The library was just so valuable for me, especially in my first year at Virginia Tech," the Macon, Ga., resident said. "I found a lot of support there, and it was a great place to go study. I don't know if I would have gotten through my first year if I hadn't had that resource available."

Eileen Hitchingham, dean of university libraries, in the café.

Library officials hope to set up similar funds for other colleges, with help from donors who want to ensure that the most relevant information in a particular field of study can be readily accessed.

Ellen Krupar, librarian for the Pamplin College of Business, said permanent, predictable support from an endowment is especially welcome. "Knowing you can depend on that money means you can buy materials with yearly costs, such as journals, compendiums of statistics, or research report subscriptions," she said.

Just as Musolf did, today's students still rely on the library as a place to study and get support. By supporting the café project, multiple donors have lent their own support.

"People may think of a library in terms of its collections, but it's equally important as a place where students can spend long hours working individually or in a collaborative setting," said Hitchingham. "This project helps us provide that space."

Albert Raboteau is a writer for University Development.

A popular place

Newman Library received nearly 800,000 visits during the 2009-10 school year, and its materials were either checked out or accessed online more than 2.5 million times.

Read more about the new library café in "Donations fuel high-profile projects" in the winter 2009-10 magazine, available at *www.vtmagazine.vt.edu/winter10/philanthropy.html*.

ALUMNI GATEWAY
135TH ANNIVERSARY
VIRGINIA TECH ALUMNI ASSOCIATION
1875 ⌒ 2010

Alumni Association

Alumni Association News

Commentary

My recent columns have focused on our year-long 135th anniversary celebration of the Alumni Association. This issue of the magazine highlights many recent achievements of our modern association. For the first 50 years, volunteers kept the Virginia Tech flame burning through alumni programs and support activities that enriched the small college. Our first alumni office, located in a new War Memorial Gym in 1926, signaled that the association had entered a new phase with a staff designated to keep the college's 2,000 alumni engaged.

In 2010, we have more than 214,000 living alumni across the globe. Virginia Tech alumni make their marks in every profession, service, and dimension of volunteerism imaginable. Association programs extend far and touch alumni who cannot return to campus as often as they would like. Our chapter organization has never been stronger, with more than 120 active chapters led by volunteers and supported by our staff. Likewise, there were 175 different alumni events in the past year that engaged alumni through class reunions, college and departmental programs, multicultural interests, and student life programs.

We continue to place emphasis on our relationships with students to prepare them to be future loyal alumni. Our alumni chapters raise funds for local scholarship recipients, and endowed funds support many merit scholars. We oversee the class officer program that guides each unique class ring design. There were nearly 4,000 ring purchases in the past year, and the junior ring dance in Squires Student Center reached capacity for the first time in its 75-year history. Our Student Alumni Associates produce a variety of programs that foster Hokie Spirit and acquaint their contemporaries with future opportunities for engagement after graduation.

Another hallmark of the association is its awards program, which recognizes and encourages accomplishments and excellence among faculty, students, alumni, and local alumni chapters.

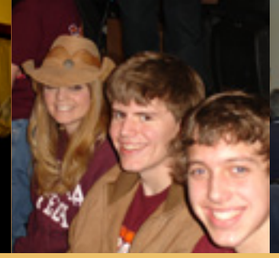
Our association is merely 135 years young! As always, we will continue strengthening a connected alumni base that is the envy of our peer institutions nationally. Virginia Tech is truly special. Our Alumni Association is proud to lead the charge to foster loyalty and expand a sense of pride across the entire Hokie Nation.

Tom Tilley '69

Vice President for Alumni Relations

Alumni Association Annual Report 2009–10




Alumni Association Annual Report 2009–10

SUPPORTING STUDENTS | 123 active chapters and clubs held events

Student programs bridge the gap

Student Alumni Associates (SAA) and the Class System, two active and respected organizations, foster traditions designed to bond students more closely to the university. SAA accepted 34 new members through its annual recruitment for 2010. As part of the student transition program, a speaker series meant to prepare seniors for life after graduation was offered during the spring semester. The Class of 2011 had record attendance of more than 2,000 at the Ring Dance, celebrating the 100th anniversary of the class ring.

Alumni chapters and clubs connect with students

Chapters and clubs across the country host annual student send-off events for current and incoming students and often remain in touch with students throughout the year by inviting them to tailgates, providing care packages during exam time, and including them in other events, such as holiday gatherings and summer picnics.

Raising scholarship money through chapters

Alumni chapters raise hundreds of thousands of dollars to assist students with educational costs. In 2009-10, 58 alumni chapters awarded 164 freshman scholarships totaling $187,600. In addition, the association has a scholarship endowment of about $2 million, which provides annual scholarship support for University Honors students.

Virginia Tech *forlife*
ALUMNI ASSOCIATION
Keeping the Hokie Nation Connected

CELEBRATING FACULTY | 16 faculty members were recipients of Faculty Excellence Awards

Honoring the best

The association recognizes Virginia Tech's top teachers with its Faculty Excellence Awards for teaching, research, advising, outreach, and extension, and for international education, outreach, and research. Sixteen faculty members were honored in 2009–10 with cash stipends of $2,000 each. An endowment was created in 1972 by the association to provide support for professorships; the Alumni Distinguished Professorship is one of the university's highest honors.

Faculty featured in alumni programming

Professors regularly visit alumni chapters. In addition, faculty and administrators speak at reunions, constituency homecomings, and other special events.

164 chapter scholarships were awarded to incoming freshmen, totaling **$187,600** in financial support; **3,900** class rings were purchased by the classes of 2010 and 2011.

ENGAGING LEADERSHIP | 105 advocates at Hokie Day with the General Assembly

Alumni advocacy events

Hokies for Higher Education is the legislative advocacy group for Virginia Tech, providing vocal backing on issues of importance to the university and to higher education by cultivating support among elected officials. Alumni members of the General Assembly were hosted at a breakfast in Richmond, and the 12th annual Hokie Day at the General Assembly in the state capitol attracted the highest number of participants to date, with 105 alumni and students visiting legislators. Chapters also invited legislators to their functions during the months when the legislature was not in session.

Alumni Board of Directors

Twice a year, members of the Alumni Board of Directors gather to review and approve operating expenses for the association, evaluate progress in accomplishing annual goals and strategies, ensure strong financial and administrative management, and develop future initiatives. The board is comprised of 30 members elected by the association's active members.

Chapter Officers Leadership Forum

The Chapter Officers Leadership Forum each fall provides an opportunity for alumni chapter volunteers to return to campus for special workshops, to hear updates on the Alumni Association and the university, and to meet other chapter officers. About 180 participants from 43 alumni chapters attended the 2009 program, which focused on engaging alumni across generations. A chapter officer training webinar was held in January with more than 30 chapter volunteers joining in. Teleconferences for chapter leaders scheduled throughout the year featured special topics or open forums.

EMBRACING SERVICE | 49 alumni chapters performed more than 100 service activities

Ut Prosim

The Hokie Nation Serves initiative encourages all members of the Hokie Nation to commit to service hours beyond normal commitments, especially during the month of April. *The Ut Prosim Update,* a newsletter designed to keep alumni informed of community service projects that involve our alumni, students, faculty, and staff, was introduced in December 2009.

Outstanding volunteerism

Forty-nine alumni chapters participated in more than 100 community service activities in the past year, including HokieBird Fights Hunger, Virginia Tech*forlife* blood drives, and Adopt-a-Highway cleanups. Unique projects included a Ryan Clark Scholarship and Community Service Award benefit; a beach cleanup; and baking for the Ronald McDonald House. In addition, at the fall Chapter Officers Leadership Forum, chapter volunteers joined their local scholarship recipients in making more than 100 hats for children with cancer. On New Year's Eve, more than 20 alumni volunteers worked at the Atlanta Union Mission shelter in association with the Tech bowl game in Atlanta.

72 chapter awards were presented at the fall Chapter Officers Leadership Forum; the number of living alumni climbed to **214,000.**





Alumni Association Annual Report 2009–10

SERVING ALUMNI | 175 constituency events for reunions and colleges were held

Alumni tours

The Alumni Association sponsors group travel opportunities, often at substantial savings over the price of private tours, to exciting destinations worldwide. In 2009–10, 17 tours gave 163 Hokies the opportunity to visit places around the globe, including popular tours to Italy and Ireland and a Mediterranean cruise. Tours are professionally guided to take much of the hassle out of travel. Additionally, 54 new graduates traveled abroad on the Essential Europe tour.

Alumni awards

Since 1972, the association has honored more than 100 alumni for achievements in their careers and service to the Alumni Association, Virginia Tech, and their communities with the Alumni Distinguished Service Award. Each year, the association recognizes one individual with the Graduate Alumni Achievement Award, eight alumni from each college with the Outstanding Recent Alumni Award, eight students from each college with the Outstanding Senior Award, and two graduate students with teaching and service awards. A Humanitarian Award is occasionally presented to deserving alumni who have had a profound humanitarian impact on the lives of others.

Holtzman Alumni Center

The Holtzman Alumni Center opened in 2005. Its Alumni Gallery provides space for receptions and features rotating art exhibits by alumni and local artists. The Alumni Museum displays memorabilia that depict the university's rich history. The Alumni Library has a collection of university publications and yearbooks, and volumes authored by Tech alumni. Numerous events were held at the Holtzman Alumni Center and the Alumni Terrace, including graduate fairs, an open house for students, an alumni open house during Homecoming weekend, a graduation bash for seniors, and a wine festival.

Reunions, homecomings, and special events

In the fall, the Alumni Association enjoyed a successful reunion season. More than 2,550 alumni attended six class reunion weekends, seven college homecomings, a corps of cadets homecoming, a multicultural alumni reunion, and a Graduate School homecoming. The annual Old Guard reunion was attended by 180 members of the classes of '36 through '58. Nearly 645 alumni and friends attended other special events. More than 380 alumni and friends attended educational and special events, such as Summer Around the Drillfield, Civil War Weekend, and A Day in the Life of College Admissions.

Alumni Association presence in *Virginia Tech Magazine* and online

Beginning in fall 2008 the *Alma Mater,* formerly published by the Alumni Association, merged into the *Virginia Tech Magazine* with a devoted Alumni Association section in each issue. The association pages provide news regarding upcoming or recent programs, with occasional features on trends or topics of broad appeal. The association also expanded its communication network over the past year through Hokie Nation Network, Facebook, and Twitter.

20,000 alumni and friends participated in association events on and off campus; **163** passengers traveled on alumni tours; Hokie Nation Network was introduced and registered nearly **11,000** members.

UNIVERSITY AND ALUMNI ASSOCIATION AWARDS

Awards to Alumni

William H. Ruffner Medal:
Garnett E. Smith (honorary alumnus)

University Distinguished Achievement Award:
Retired Gen. Lance L. Smith '68

Alumni Distinguished Service Awards:
James M. Shuler '66, E. Ann Spencer '76, '84

Graduate Alumni Achievement Award:
Richard T. Crowder '60, '62

Alumni Awards to Faculty for Excellence

Graduate Academic Advising: Harold E. Burkhart, forestry
Undergraduate Academic Advising: D. Michael Denbow, animal and poultry sciences
Extension: Michael J. Parrish, Dinwiddie County Extension; **Scott P. Greiner,** animal and poultry science
International Education: A.L. Hammett, wood science and forest products
International Outreach: John K. Burton, School of Education
International Research: Mary A. Marchant, agricultural and applied economics
Outreach: Mary E. Kasarda, mechanical engineering; **Joyce Latimer,** horticulture
Research: Timothy E. Long, chemistry; **Shuhai Xiao,** geosciences
Teaching: Barbara M. Bekken, geosciences; **Peter E. Doolittle,** School of Education
William E. Wine Awards in Teaching: **Patricia G. Amateis,** chemistry; **Eloise B. Coupey,** marketing; **Michael J. Ellerbrock,** agricultural and applied economics

Graduate Student Awards

Teaching Award: Rachel Arnold, mathematics; **Laura Boutwell,** sociology (honorable mention)

Service Award: Laura Pennington, political science; **Jonathan Gaines,** mechanical engineering (honorable mention)

For detailed biographical information on award recipients, visit *www.universityawards.vt.edu/*.

2010 award winners (from left) Lance L. Smith, E. Ann Spencer, Garnett E. Smith, and James M. Shuler with President Charles W. Steger.



UNIVERSITY AND ALUMNI ASSOCIATION AWARDS

Outstanding Recent Alumni Awards

(Graduates of the past 10 years are eligible.)

Thomas W. Chittenden '02, College of Agriculture and Life Sciences
Jason J. Fichtner '05, College of Architecture and Urban Studies
Daniel J. Connolly '99, Pamplin College of Business
Henry A. Sodano '02, '03, '05, College of Engineering
Mara S. Seidel '06, College of Liberal Arts and Human Sciences
Travis E. Hardy '01 and **Vladimir G. Kochkin '00,** College of Natural Resources and Environment
David M. Williams '04, College of Science
Lauren L. Howard '00, Virginia-Maryland Regional College of Veterinary Medicine

Chapter Superlative Awards

Outstanding Chapter Event/Activity: **Alleghany Highlands**—Blue/Gray Banquet
Outstanding Community Service Project: **National Capital Region**—Capital Area Food Bank
Outstanding Fundraising Event/Activity: **Denver**—Wine Tasting & Silent Auction
Outstanding Golf Tournament: **N.C. Triad**—Carroll Dale Charity Golf Tournament
Outstanding Chapter Website: **New York City**—*www.MaroonEffect.org*
Outstanding Chapter Volunteer: **Jill Heyman,** N.C. Triad Chapter
Most Improved Chapter: **New Jersey**
Outstanding New Chapter: **Western North Carolina**
Outstanding Chapter Officer: **Marvin Boyd,** National Capital Region

KELSEY KRADEL

2010 winners of faculty/staff awards presented by the university and Alumni Association.

Outstanding Alumni Chapter Awards

Alleghany Highlands
Annapolis
Atlanta
Austin
Baltimore
Central Florida
Central Pennsylvania
Charleston, S.C.
Charlotte
Chattanooga
Chicago
Cincinnati
Coastal Carolina
Columbia, S.C.
Dallas
Danville
Denver
East Tennessee
Emporia/Roanoke Rapids
First State (Delaware)
Franklin County/Smith Mountain Lake
Fredericksburg
Grand Strand/Myrtle Beach
Houston
Iowa
Jacksonville
Knoxville
Los Angeles
Middle Tennessee
Minnesota
National Capital Region
N.C. Triad
New River Valley
New York City
Palmetto (South Carolina)
Prince William
Research Triangle
Richmond
Roanoke Valley
Rockbridge
San Antonio
Seattle
Shenandoah
South Florida
Southwest Virginia
Tampa Bay
Tidewater
Western North Carolina
Williamsburg

Chapter Achievement Awards

Central Virginia
Dayton, Ohio
Hilton Head, S.C.
Kentuckiana
Las Vegas
Loudoun County, Va.
New Jersey
New Orleans/Baton Rouge
Northeast Ohio
Philadelphia
Pinehurst, N.C.
Pittsburgh
San Francisco
Southwest Florida

Life is meant to be experienced and explored. . . .
What better way to broaden your **horizons** *and breathe in new* **adventures** *than with other Hokies!*

Virginia Tech's alumni travel the world

Swiss Winter Escapade
Feb. 21–28 | $1,695*
Located in the center of the Jungfrau Region, Interlaken is your gateway to the Bernese Oberland, the magnificent heart of alpine Switzerland.

Cruise the Panama Canal ~ Crystal Symphony
March 6–17 | starting at $3,795*
(air included)**
Relax aboard the six-star Crystal Symphony as you chart a course to fascinating ports of call.

Jewels of the Mediterranean and Greek Isles
April 12–23 | $3,499*
(air included)**
This alluring voyage presents a magical blend of ancient Mediterranean ports and celebrated destinations as you cruise on the elegant 684-passenger Oceania Cruises' Insignia.

Hokies at the Kentucky Derby
May 5–8 | $1,859*
And down the stretch they come! The majesty of Churchill Downs and Louisville, Ky., are on full display for one amazing weekend in May.

Sketches of Spain
May 5–16 | $3,495*
Travel through the most historic regions of northern Spain. This special program begins in cosmopolitan Madrid, with its stunning architecture, lively streets, and renowned museums.

Treasures of China and Tibet ~ Century Sky
May 20–June 4 | $4,095*
On this epic journey, discover one of the world's most dynamic and captivating nations.

Baltic Treasures ~ Copenhagen to Stockholm
June 10–21 | $3,699*
(air included)**
Sail away on Oceania Cruises' newest ship, Marina, to a selection of the loveliest sights northern Europe has to offer.

Amalfi ~ The Divine Coast of Italy
June 15–23 | $2,795*
Delight in the scenic grandeur of the Amalfi Coast, with its varied architecture and amazing vertical landscape. Hosted by Richard Sorensen, dean of the Pamplin College of Business.

Vikings, Kings, and Castles: England, Scotland, Norway, Ireland, the Isle of Man, and Wales
July 14–29 | $5,299*
(air included)**
Uncover the cultural and historical riches of northern Europe while cruising on the grand and regal Oceania Cruises' Marina.

Alaskan Adventures
Aug. 4–14 | Starting at $3,499*
(air included)**
Revel in the rugged beauty of Alaska as you sail its coastline onboard the elegant Oceania Cruises' Regatta.

Virginia Tech's alumni travel the world

Grand Journey Around the World
Sept. 3–28 | $29,995*
Embark on a once-in-a-lifetime experience and see some of the world's greatest sights. Begin your discovery in Japan, where you'll visit Kyoto, Nara, and Tokyo.

Chicago ~ An Insider's Perspective
Sept. 6–11 | $1,895*
Chicago is one of the world's leading cities in business and the arts. From the fashionable department stores of Michigan Avenue to the impressive exhibits at world-renowned museums; from the history at Jackson Park to the dazzling modern architecture at Millennium Park, Chicago has something for everyone. Hosted by Jack Davis, dean of the College of Architecture and Urban Studies.

Grand Danube Passage Cruise ~ Amadeus Elegant
Sept. 13–27 | starting at $3,895*
Described by Napoleon as the "king of Europe's rivers," the Danube is steeped in beauty, legend, and lore. Begin your discovery of its breathtaking countryside in charming Passau, Germany.

France ~ Paris and the Villages and Vineyards
Oct. 6–16 | $3,295*
Discover the picturesque vineyards and charming towns of Champagne and Burgundy on a special trip that combines the history and charm of these regions with the sophistication of the nation's capital.

Treasures of East Africa
Oct. 21–Nov. 3 | $5,495*
"Safari" is the Swahili word for journey.

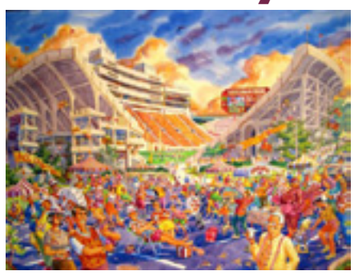
Once it was synonymous with the travels of big-game hunters in search of adventure. The adventure is still there as visitors eagerly strive to glimpse lions, leopards, elephants, and more in Tanzania and Kenya.

Mexican Riviera Cruise ~ Symphony
Nov. 27-Dec. 4 | starting at $3,795*
(air included)**
Board the six-star Crystal Symphony for an idyllic cruise adventure through the spectacular Mexican Riviera.

** Dates and prices are subject to change. Pricing is based per person, double occupancy, without air, except as noted.*
*** Free air is based from select North American gateway cities.*

by Eric Fitzpatrick '75

"Game Day"



$65 per print, plus shipping and handling

To order, visit www.alumni.vt.edu/merchandise

Both prints are 18' X 24" in size unframed

"Game Night"

There is nothing like the magic of a night game at Tech... These prints capture that special moment when a sea of maroon and orange washes over Lane Stadium, electricity fills the air, and fireworks burst.

Come join the parade ("The Walk") with the Highty-Tighties, Coach Beamer, Bud Foster, TV crews, cheerleaders, players, and fans... sure to be collectors' items...

Book Notes

***Virginia Tech Magazine* is pleased to note books by alumni, faculty, and staff or books about Virginia Tech. To submit a book, please mail it to Book Notes, *Virginia Tech Magazine*, 105 Media Building, Blacksburg, VA 24061. You can also e-mail a high-resolution image of the book cover, along with your name, the name of the publisher, and a brief description of the book, to *vtmag@vt.edu*. For more information about Book Notes policies, please go to *www.vtmagazine.vt.edu/bookreview.html*.**

Books by faculty and staff

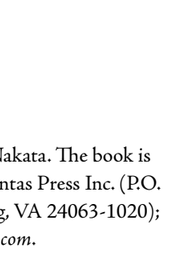
In *Recovering the Commons: Democracy, Place, and Global Justice*, Herbert Reid and **Betsy Taylor**, senior research scholar at the Alliance for Social, Political, Ethical, and Cultural Thought at Virginia Tech, provide new practical and conceptual tools for responding to human and environmental crises in Appalachia and beyond. The book is published by University of Illinois Press (1325 S. Oak St., Champaign, IL 61820-6903); *www.press.uillinois.edu*.

In his compilation *Images: Sixty Short Japanese Poems of Nature, Man, and Love*, **Carl J. Pfeiffer**, professor emeritus of biomedical science at Virginia Tech, captures impressions of Japanese culture as seen through the eyes of a Westerner. Japanese interpretation is provided by Akiko Nakata. The book is published by Pocahontas Press Inc. (P.O. Drawer F, Blacksburg, VA 24063-1020); *www.pocahontaspress.com*.

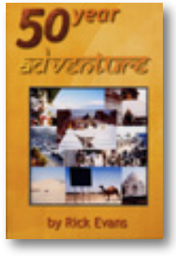
Books by alumni

Introduction to Composite Materials Design, second ed., by **Ever J. Barbero** (Ph.D. engineering mechanics '89), updates its preceding best-seller with new chapters on short-fiber and fabric-reinforced composites and external reinforcement for infrastructure. The book is published by CRC Press (6000 Broken Sound Pkwy. N.W., Ste. 300, Boca Raton, FL 33487); *www.crcpress.com*.

In *Become Your Own Boss in 12 Months*, **Melinda F. Emerson** (communication '94) presents a practical, month-by-month guide for getting a successful business up and running in 365 days. The book is published by Adams Media (57 Littlefield St., Avon, MA 02322); *www.adamsmedia.com*.



In *50-Year Adventure*, **Rick Evans** (geophysics '84) chronicles his travels, which begin in rural Virginia and take him around the globe, offering a unique story of personal struggle and redemption. This book is self-published through Lulu Enterprises Inc. (3103 Hillsborough St., Raleigh, NC 27606-5436); *www.lulu.com*.



Greeetings from Ekaterinburg, by **Jean Wilson Hale** (civil engineering '79), offers a humorous account of living and working in Russia by way of letters and e-mails sent to family and friends. This book is self-published through iUniverse (1663 Liberty Dr., Bloomington, IN 47403); *www.iuniverse.com*.

Nanotechnology Environmental Health and Safety: Risks, Regulation and Management, edited by **Matthew S. Hull** (M.S. biology '02) and Diana M. Bowman, tackles the debate over nanotechnology by thoroughly explaining environmental health and safety issues, financial implications, foreseeable risks, and the implication of occupational hygiene precautions and consumer protections. The book is published by Elsevier (3251 Riverport Ln., Maryland Heights, MO 63043); *www.elsevier.com*.

Through a series of rare photographs, maps, and illustrations, *Attack on Pearl Harbor, Japan Awakens a Sleeping Giant*, written by **Bert Kinzey III** (business administration '68) and illustrated by **Richard S. "Rock" Roszak** (management '71), alumni director for the Virginia Tech Corps of Cadets, chronicles Pearl Harbor before, during, and after the fated Japanese attack. This book is self-published through Military Aviation Archives Inc. (403 Hearthstone Dr., Blacksburg, VA 24060); *www.milavnarc.com*.

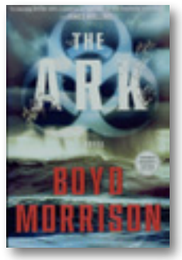
New Selected Poems of **T. Byron Kelly** (English '90) takes the reader on a visionary poetic journel that spans 23 years. The collection is self-published through iUniverse (1663 Liberty Dr., Bloomington, IN 47403); *www.iuniverse.com*.

Virginia's Montgomery County, edited by Mary Elizabeth Lindon (architecture '52), is a comprehensive history of Montgomery County from the prehistoric geography of its land to the modernity of present-day life. The publisher is Montgomery Museum and Lewis Miller Regional Art Center (300 S. Pepper St., Christiansburg, VA 24073); *www.montgomerymuseum.org*.

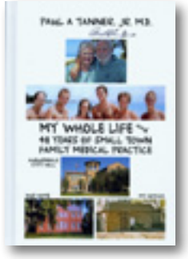
Favorites, by **Garret Mathews** (economics '71), is a collection of intriguing columns about Americana, compiled to honor the fading print of newspaper. This compilation is published by the *Evansville Courier and Press* (300 E. Walnut St., Evansville IN 47702); *www.courierpress.com*.

The Now Exspirientuality—The Way of Unity: Conversations with Dog, Book 1, by **Greg Morgoglione** (business '81), reveals an instantly accessible, real-time meditation for those seeking immediate enlightenment, with the help of Alice, the Canine Messiah. The book is self-published by BookSurge LLC (7290-B Investment Dr., North Charleston, SC 29418-8305); *www.BookSurge.com*.

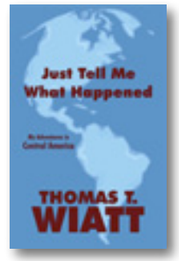
In his novel *The Ark*, **Boyd Morrison** (industrial and systems engineering M.S. '93, Ph.D. '95) combines elements of the thriller genre with biblical mystery to tell of a frantic search for an ancient artifact and a race to save humanity. The novel is published by Simon & Schuster Inc. (1230 Avenue of the Americas, New York, NY 10020); *www.simonandschuster.com*.



My Whole Life and 48 Years of Small Town Family Medical Practice, by **Paul A. Tanner Jr.** (biological sciences '45), is an autobiographical account stemming from his collection of patient comments and quotes. The book is self-published with Eloquent Books (845 Third Ave., Sixth Floor, No. 6016, New York, NY 10022); *www.eloquentbooks.com*.



Just Tell Me What Happened: My Adventures in Central America, by **Thomas T. Wiatt** (civil engineering technology '80), is a collection of stories inspired by his 20-year journey backpacking through Central America. The book is self-published through PublishAmerica (P.O. Box 151, Frederick, MD 21705); *www.publishamerica.com*.

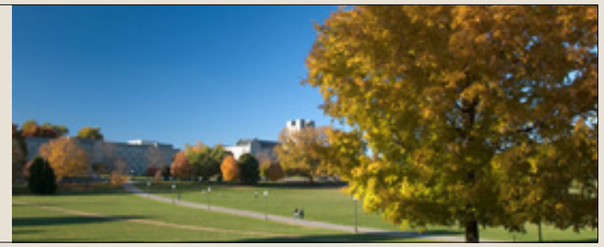


In his book *Keeping People Safe: The Human Dynamics of Injury Prevention*, **Josh Williams** (Ph.D. industrial organizational psychology, '94) illustrates how organizations can create safer workplaces through the use of the "Big Five" components of occupational safety: communication, leadership, behavior-based factors, person-based factors, and safety-management systems. The book is published by Government Institutes (4501 Forbes Blvd., Ste. 200, Lanham, MD 20706); *www.govinstspress.com*.

My Mommy Has Breast Cancer, by **Gina Wright** (clothing and textiles '90), explains what both "Mommy" and her children may experience during the grueling fight against cancer. This book is self-published through Author House (1663 Liberty Dr., Bloomington, IN 47403); *www.authorhouse.com*.

Alumni, we want to hear what you've been doing. Although we cannot print stories or obituaries, we can post online photographs of weddings, babies, and spirited alumni. Mail photos to *Virginia Tech Magazine,* 105 Media Building, Blacksburg, VA 24061, or e-mail them to *vtmag@vt.edu.* Please mail career, retirement, wedding, birth, and death notices to Alumni Notes, Virginia Tech Alumni Association, Holtzman Alumni Center, Blacksburg, VA 24061; send them via e-mail to *fleets@vt.edu;* or submit them online at *www.vtmagazine.vt.edu/submit.classnotes.html.*

Editor's note: For privacy reasons, mailing addresses for alumni appearing in Career News, Weddings, and Births and Adoptions, may now be viewed online at *www.alumni.vt.edu/directory* by logging in with your Virginia Tech PID and password.



'50s

'56

Charles E. Hamner Jr. (ANSC), Chapel Hill, N.C., received a Health Care Hero award from *The Triangle Business Journal* for his accomplishments in health care.

'60s

'60

Richard T. Crowder (AGEC, AGEC '62), Alexandria, Va., received the Virginia Tech Graduate Alumni Achievement Award for 2010.

'63

Arthur H. Walz Jr. (CE), Bel Air, Md., received the 2010 Lifetime Achievement Award from the United States Society on Dams.

'64

Douglas D. Martin (PAD, EDAD '78, EDAD '93), Newport, Va., was conferred the director emeritus title by the Virginia Tech Board of Visitors.

'65

Irving M. Blank (PAD), Richmond, Va., is president of the Virginia State Bar Association.

'66

John S. Cundiff (AGE), Blacksburg, Va., was conferred the professor emeritus title by the Virginia Tech Board of Visitors.

James M. Shuler (ANSC), Blacksburg, Va., received the Virginia Tech 2010 Alumni Distinguished Service Award.

William H. Swan Jr. (MGT), Brunswick, Ga., received the Albert Berger Award for Outstanding Chapter Leadership.

'68

Lance L. Smith (BAD '70), Pinehurst, N.C., received the Virginia Tech 2010 University Distinguished Achievement Award.

Robert L. Snider (MATH), Riner, Va., was conferred the professor emeritus title by the Virginia Tech Board of Visitors.

'69

Ralph A. Lorenzetti (CE), Harpers Ferry, W.V., was appointed by the West Virginia Attorneys Association to the board of directors of the National District Attorney Association.

'70s

'70

James R. Denyes (IE '71), Williamsburg, Va., retired from the Naval Safety and Environmental Training Center as executive director after more than 35 years of federal service.

'71

J. Madison Drake (ASE), New Orleans, La., received the Fellow Membership Grade in the National Society of Professional Engineers.

Catherine O'Connor Woteki (HNF '72, HNF '75), Washington, D.C., was appointed by President Barack Obama as USDA undersecretary for research, education, and economics.

'72

Jon H. Fagan (ME), Aiken, S.C., is vice president of engineering at Northrop Grumman Corp. and is chief engineer and nuclear safety officer for Savannah River Nuclear Solutions.

'73

Kathy Dye Spradlin (MATH, MATH '75), Lynchburg, Va., earned her doctorate of education from Liberty University.

Thomas J. Verbeck (EE '74), Burke, Va., retired from the U.S. Air Force and is now a chief technology officer for Northrop Grumman Health IT.

'75

Dayton Egger (ENSY), Blacksburg, Va., was conferred the professor emeritus title by the Virginia Tech Board of Visitors.

James D. Heffernan Jr. (HIST), Bonita Springs, Fla., is the understudy for the character Dr. Bob in the movie *Bill W. and Dr. Bob.*

Lewis L. Lanier (BIOL), San Francisco, Calif., was elected to the National Academy of Sciences.

Reginald G. Mitchiner (ME), Salem, Va., was conferred the professor emeritus title by the Virginia Tech Board of Visitors.

'76

Thomas A. Sachs (PSCI), Alexandria, Va., is the associate director for business services and administration for the U.S. Department of Transportation's Office of Intelligence, Security, and Emergency Response.

Ann Spencer (ACCT, BAD '84), Jackson, Wyo., received the Virginia Tech 2010 Distinguished Service Award.

'77

Nancy Pritt Mathias (ELED), Covington, Va., penned the words for the alma mater song for Dabney Lancaster Community College.

'78

Walter L. Daniels (FW, AGRN '81, AGRN '85), Blacksburg, Va., was appointed the Thomas B. Hutcheson Jr. Professor by the Virginia Tech Board of Visitors.

Douglas W. Domenech (FW '79), Richmond, Va., was appointed Virginia secretary of natural resources by Gov. Bob McDonnell.

Joyce Griffin Latimer (HORT), Moneta, Va., received the Virginia Tech 2010 Alumni Award for Outreach Excellence.

Humbert J. Lertora III (PSYC), Roanoke, Va., received an education specialist degree from George Washington University.

'79

Michael E. Melo (FW), Yorktown, Va., is president/CEO and owner of ITA International, which ranked No. 1 on the Virginia Chamber of Commerce's "Virginia Fantastic 50."

'80s

'80

Ronald J. Kendall (FIW), Ransom Canyon, Texas, received the Gerald E. Cross Alumni Leadership Award from the Virginia Tech College of Natural Resources and Environment's Department of Fisheries and Wildlife Sciences.

'81

Judy S. Riffle (CHEM), Blacksburg, Va., received Virginia Tech's College of Science Diversity Award.

R. Christopher Rosenthal (ACCT), Edgewater, Md., is treasurer of the Baltimore Estate Planning Council.

Bevlee A. Watford (MINE, IEOR '83, IEOR '86), Blacksburg, Va., is the interim head of the College of Engineering's education department.

'82

Mark B. Pokrywka (AOE), Slidell, La., received the NASA Silver Snoopy award for outstanding achievements related to the space shuttle program.

'83

Michael L. Burton (ME), Grand Blanc, Mich., is the manager of global independent aftermarket engineering and North America aftermarket product development for General Motors Customer Care and Aftersales.

Darren R. Conner (CE), Callands, Va., is president of Dewberry & Davis Inc.

Laura DeSantis Gagliano (ARCH), Olathe, Kan., is a project manager for design and construction management at the University of Kansas.

Ronnie D. Green (ANSC '84), Sutton, Neb., is vice president for the University of Nebraska and Harlan Vice Chancellor for the Institute of Agriculture and Natural Resources.

Steven M. Pearson (ARCH), Virginia Beach, Va., was named architect of the year by the Society of American Military Engineers.

Douglas G. Stewart (MKTG), Fredericksburg, Va., was named as one of 2010's top 1,000 financial advisors in the U.S. by *Barron's* magazine.

'84

Patricia Graham Amateis (CHEM), Blacksburg, Va., received the Virginia Tech 2010 William E. Wine Award.

Clara Brown Cox (ENGL), Blacksburg, Va., compiled, wrote, and edited the "History and Historical Data of Virginia Tech" website.

John D. Daus (ME), Vienna, Va., was a supporter and participant in the Crossing Way Foundation Competing For A Cause Campaign.

Douglas E. Nauman (FIN), High Point, N.C., is an attorney with the firm of Daggett, Shuler, Koontz, Nauman, & Bell PLLC.

David A. Norden (ARCH), Warrenton, Va., was recognized by the American Institute of Architects as a "citizen architect" for years of service as a Warrenton Town Council member and vice mayor.

'85

Robert J. Bloxom (MGT), Melfa, Va., is executive vice president and chief credit officer for Hampton Roads Bankshares.

Susan Mokwa Breitenother (BIOL), Clarksville, Md., earned her master's of science in nursing from the University of Maryland.

Jeffrey J. Haugh (CE '86), Gum Spring, Va., received his doctorate of ministry from Wesley Theological Seminary.

'86

Dwight A. Holland (GEOP, ISE '91, ISE '01), Roanoke, Va., received the Meritorious Service Medal for his outstanding service to the United States.

'87

Timothy E. Long (CHEM), Blacksburg, Va., received the Virginia Tech 2010 Alumni Award for Excellence in Research.

Darrell G. Mottley (ESM, BAD '94), Alexandria, Va., is president-elect of the Washington, D.C., Bar.

Sandra J. Schiavo (STAT), Alexandria, Va., is a captain in the U.S. Navy.

Dennis M. Scullin Jr. (ACCT, ACCT '88), Cumming, Ga., is serving Pricewaterhouse-Coopers LLP as a tax partner.

'88

Nathaniel Q. Belcher (ARCH), Miami, Fla., is director of the H. Campbell and Eleanore R. Stuckeman School of Architecture and Landscape Architecure at Penn State.

Kevin G. Bezy (EDAD), Rocky Mount, Va., is president of the Virginia Association of Secondary School Principals for 2009-10.

Jonathan C. Clough (MATH), Springfield, Va., has retired from active duty in the U.S. Air Force as a lieutenant colonel after 21 years of service.

Gina Bottoms Maio (MKED), Richmond, Va., earned her master's of divinity from Union Theological Seminary and is pursuing ordination as a minister of word and sacrament.

Steven D. Springer (ANSC), Los Angeles, Calif., has authored his fifth book, *The Organized Teacher's Guide to Building Character.*

'89

Benjamin H. Cassutto (VM), Millsboro, Del., has authored a family biography entitled *The Last Jew of Rotterdam.*

John E. Christensen (IEOR), Gas City, Ind., is general manager of Packaging Corporation of America.

Elizabeth Strackbein Forbes (MKTG, BAD '93), Vienna, Va., is a partner and chief of staff and operations at Heart+Mind Strategies.

Michael J. Parrish (AT, HORT '92, EDVT '96), Chester, Va., received the Virginia Tech 2010 Alumni Award for Excellence in Extension.

'90s

'90

Darrell H. Chapman (FW), Boca Raton, Fla., was assigned to the U.S. Embassy in Baghdad, Iraq, as a systems security officer.

Larkin Sims Dudley (PAPA '86, PAPA '90), Blacksburg, Va., was conferred the professor emerita title by the Virginia Tech Board of Visitors.

Michael G. Lee (ACCT), Davidson, N.C., is co-president of the global consulting firm North Highland.

Matthew M. Winston Jr. (MKTG), Athens, Ga., is assistant to the president at the University of Georgia.

'91

David G. Austin (AE), Niceville, Fla., took command of the 605th Test and Evaluation Squadron for the U.S. Air Force.

Bobbi Bolte Erb (MATH, EDCI '93), Chugiak, Alaska, received the National Milken Educator Award.

Laura Worley Fornash (MKTG, HTM '98), Henrico, Va., is deputy secretary of education for Virginia.

Brian Lieberman (ISE), Farmington Hills, Mich., is marketing manager at Takata.

J. Robert Mahan (FR), Blacksburg, Va., was conferred the professor emeritus title by the Virginia Tech Board of Visitors.

'92

Alice G. Anderson (EDVT), Findlay, Ohio, is dean of the school of education at Purdue University.

Paul Chodak III (CE), Columbus, Ohio, is president and COO of Indiana Michigan Power.

Theresa O'Toole Durboraw (BIOL), New Market, Ala., was named Teacher of the Year for Buckhorn High School and Madison County. She was also selected as District 8 Teacher of the Year.

Walid Y. Thabet (CE), Roanoke, Va., was named the William E. Jamerson Professor of Building Construction by the Virginia Tech Board of Visitors.

Charles E. Watson (STAT, ENGL '93, ENGL '95, EDCI '07), Blacksburg, Va., is associate director of Virginia Tech's Center for Instructional Development and Educational Research.

'93

Judith M. Lynch (EDSP, ELPS '03), Christiansburg, Va., was named to Virginia first lady Maureen McDonnell's advisory council to support the first lady's Initiative Team Effort.

M. Laine Mears (ME), Anderson, S.C., received a 2010 National Science Foundation CAREER grant for a five-year study at Clemson University.

Kristin Metz Mentz (MKTG), Columbia, Md., is executive

A day at the beach ... for everyone

BY MEAGHAN HINDER '10

Billy Almond '78

Most people take for granted the ease of a beach day. For many, it's effortless to stroll the shoreline or bulk up one's seashell collection. However, not everyone has the ability to bask in the benefits of life in a traditional oceanfront community. For those who must use wheelchairs, a day of sand and surf can mean a day of spinning one's wheels on a beach's soft shores—not the idyllic, lazy day that others might imagine.

When Virginia Beach, Va., native Billy Almond (landscape architecture '78) recognized the problem, he decided to take initiative in the design and construction of America's first handicapped-accessible beach playground, JT's Grommet Island Beach Park and Playground For EveryBODY, on Virginia Beach's oceanfront.

The inspiration spawned from Josh Thompson, a local boy diagnosed with amyotrophic lateral sclerosis (ALS) in 2006. At that time, beach inaccessibility prevented him from enjoying days by the shore with his family.

Almond watched on television as Josh's father, Bruce Thompson, pitched the idea for a fully accessible beach park to the city council. "I've known Bruce for the better part of my life," Almond said. "When I saw him making a proclamation for Josh, I immediately texted him, 'We'll do it.'" The park opened on May 22.

"It's truly the highlight of my career to be involved in something like this," said Almond, vice president and managing principal of WPL Site Design, the landscape architecture firm that designed the park. "It feels so good to give back to the oceanfront community where I was born and raised."

Virginia Beach isn't the only community where Almond shows his support and appreciation. He chaired the Virginia Tech Department of Landscape Architecture Advisory Board for 20 years and recently became the first landscape architect on the advisory board of the School of Architecture + Design.

Meaghan Hinder (communication '10) is an intern with Virginia Tech Magazine.

SmallBizLady thrives on social media

BY MEAGHAN HINDER '10

Melinda F. Emerson (communication '94) has mastered the art of social media networking. As president and CEO of MFE Consulting LLC, a full-service communications firm based in Philadelphia, Pa., Emerson develops audio, video, and written materials to educate and train small-business owners.

Melinda F. Emerson '94

Using Twitter as a vehicle to reach rising entrepreneurs, Emerson hosts #SmallBizChat, a weekly forum reaching more than 4,100 Twitter users. Additionally, her @SmallBizLady Twitter stream boasts more than 10,000 followers and offers resources for those wishing to or just beginning to start their own business. Emerson was recently named to *Forbes'* Top 20 Women for Entrepreneurs to Follow on Twitter.

The "SmallBizLady" has been recognized as one of the Top 50 Women in Business in Pennsylvania, a Woman of Distinction by the National Association of Women Business Owners, and a Black Business Pioneer by the Pennsylvania Department of Commerce, among many other honors. Her first company, Quintessence Multimedia, was ranked 29th on the list of 100 Fastest-growing Small Businesses in the Philadelphia region and has won eight Telly awards for outstanding production.

As part of her work with MFE Consulting, Emerson has helped more than 1,500 start-up companies launch and grow their businesses. "Your network is key," Emerson said. "We live in a 24-hour economy. It's all about the value you add to the customer experience."

Emerson pens a monthly career column for *www.secondact.com*, a start-up column for *www.smallbiztrends.com*, and her own resource blog at *www.succeedasyourownboss.com*. "Author" was recently added to Emerson's impressive list of accomplishments with the March 2010 release of *Become Your Own Boss in 12 Months*. "My mission is to end small-business failure," she said. "On top of creating a realistic planning system to start a business, I wrote this book to supply the confidence and encouragement people need to succeed as their own boss."

Emerson also enjoys giving back to Virginia Tech and serves on the College of Science Alumni Board and the Multicultural Alumni Advisory Board. "Virginia Tech is my heart," Emerson said. "I am a proud member of the Hokie Nation."

Meaghan Hinder (communication '10) is an intern with Virginia Tech Magazine.

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director for the Women's Giving Circle of Howard County, Md.

Michelle R. O'Connor (EDCI), Salem, Va., was appointed to the Center for Instructional Technology Solutions in Industry and Education advisory board at Virginia Tech.

'94

Erich S. O'Dell (ENGL), Salisbury, Md., had his fifth career CD, entitled *Radio Hostile,* produced.

Erik J. Olson (CE, BAD '01), Chesapeake, Va., is managing partner of Syntactical Business Intelligence.

'95

Jennifer L. Lamb (EDCI), Sykesville, Md., was named to *USA Today's* prestigious All-USA College Academic team.

Christopher C. Peters (TED '96), Christiansburg, Va., is a co-recipient of the Reference Service Press Award granted by the American Library Association's Reference and User Services Association.

Jason D. Powell (CHEM '96), Ferrum, Va., is dean of natural sciences and mathematics at Ferrum College.

'96

Jason G. Gillmore (CHEM, CHEM '98), Holland, Mich., received a CAREER Award from the National Science Foundation.

'97

Stephanie Johnson Kalantarians (ARCH), Newport News, Va., is a licensed architect for the Commonwealth of Virginia and serves Guernsey Tingle Architects.

'98

Steven V. Coxon (ENGL, EDCI '00), Williamsburg, Va., is assistant professor of gifted education at Maryville University.

Elizabeth Johnson Howard (MSCI), Chester, Va., has authored a book, along with her son, entitled *The Cordial Cricket.*

Brandon S. Rowe (HIST, URPL '07), Summit, N.J., is a manager of corridor for the North Jersey Transportation Planning Authority.

'99

Jens Cattarius (EM), Richmond, Va., is director and CEO of Mercedes Benz Research and Development India.

'00s

Attention '00 grads: In January 2011, the Schiffert Health Center will destroy the medical records of all '00 graduates. If you would like a copy of your records, please contact Paula Robertson at 540/231-9430 or *medrec@vt.edu* before Dec. 1.

'00

Amjed A. Al-mousa (EE), San Jose, Calif., earned his doctorate in electrical engineering from Santa Clara University.

Marshall R. Eichfeld (CE), Rocky River, Ohio, is office director of Delta Airport Consultants Inc.

Elizabeth L. Markle (MSCI), Woodstock, Ga., earned her M.B.A. from the University of Georgia.

'01

Feride Daku (BAD), Blacksburg, Va., is the director of finance and administration for the office of the vice president and dean for undergraduate education at Virginia Tech.

Curt S. Kothera (ME, ME '02, ME '05), Crofton, Md., received the Hal Andrews Young Engineer Scientist of the Year from the National Capital Section of the American Institute of Aeronautics and Astronautics.

Gordon M. Snow (BAD), Campbell, Calif., is assistant director of the FBI's Cyber Division.

Maria L. Weese (CHE), Knoxville, Tenn., received her doctorate in statistics from the University of Tennessee.

'02

Christopher L. Ford (ISE), North Charleston, S.C., earned his master's of science in family financial planning from the University of Alabama.

Janet S. Luc (HNFE), Midlothian, Va., is the child and adult care food program coordinator for the Virginia Department of Health.

'03

Donna Augustine (STS), Rochester, N.Y., was recognized for her efforts in founding the STEP Regional Science Bowl.

Jeremy R. Moss (PSCI, SOC '03), Alexandria, Va., was named a 2010 Virginia Rising Star by Virginia Super Lawyers.

Mark Newlan (HTM), Kensington, Md., earned his M.B.A. from the University of Maryland Robert H. Smith School of Business.

Donald O. Saunders Jr. (MATH), Montross, Va., earned his master's in diverse student popluations with a gifted education endorsement from the University of Mary Washington.

Jhaymee S. Wilson (FIN), Centreville, Va., received the 2010 Women in Technology Rising Star Award.

'04

Krysta K. Ardigo (MGT), Haymarket, Va., founded Invite Me: Invitations for All Occasions.

Jeffrey N. Bolton (ESM, EM '06), Pearisburg, Va., received the Virginia Tech 2010 Sporn Award for Excellence in Teaching Introductory Engineering Subjects.

Jennifer Dickison Coffey (HD), Centreville, Va., earned her master's of divinity with honors from Wesley Theological Seminary.

Emily B. Hedgpeth (ECON), Kensington, Md., earned her M.B.A. from George Washington University.

Matthew J. Kushin (PSYC), Pullman, Wash., earned his Ph.D. in communication from Washington State University.

Aaron S. Lucas (BIOL), Slidell, La., was named the Outstanding Graduating Student in the Virginia-Maryland Regional College of Veterinary Medicine for the 2009-10 academic year.

Michelle F. McLeese (SOC), Blacksburg, Va., is the Virginia Tech 2010 Graduate Woman of the Year.

'05

Robert D. Schmidt (CHEM), Raleigh, N.C., is a postdoctoral research associate at the University of North Carolina at Chapel Hill.

'06

Joshua D. Elliott (PSCI, MGT), Rockville, Va., received his master's of science in strategic management from Indiana University.

Johanna L. Gusman (BIOL), Potomac Falls, Va., was awarded a Gates Public Service Scholarship from the University of Washington School of Law.

'07

Alexis B. Bozzo (IDST, PSCI), Knoxville, Tenn., is downtown development coordinator for the University of Oregon RARE Fellowship AmeriCorps.

Minta Jane Dodd Ferguson (ARCH), Charlotte, N.C., received the Emerging Professional award at the Construction Specifications Institute's Charlotte Chapter 2010 Award Banquet.

Matthew B. James (CE), Blacksburg, Va., is a staff engineer in the site planning and engineering division of Draper Aden Associates.

'09

Emily C. Barry (SPAN), APO, AE, received the National Security Education Program Boren Fellowship for human services in Sri Lanka.

Emily C. Barry (SPAN), APO, AE, was named to *USA Today's* second team of academic all-stars.

Kristen L. Casto (ISE), Henrico, Va., received the 2010 Outstanding Dissertation Award from the Aerospace Human Factors Association.

Jarom C. Hagen (IT), Garrisonville, Va., is vice president of technology for Telematch Inc.

Matthew T. Stimpson (ELPS), Balsam, N.C., is director of enrollment research and modeling for Performa Higher Education.

Weddings

'51 Leon B. Ufkes and Marlene Paris, Pasco, Wash., 9/3/09.

'80 Diane Stewart Kathol and Douglas P. Kathol, Colorado Springs, Colo., 4/25/09.

'81 Melanie Pearson Hurley and Stephen K. Hurley, Alexandria, Va., 5/2/09.

'84 Karen Kessenich Adamo and Mark M. Adamo, McLean, Va., 5/23/10.

'90 Angel C. Ho and **'99 Valerie L. Carpenter,** Virginia Beach, Va., 4/17/10.

'93 Michael D. Miller and Anna Cenatiempo, Gambrills, Md., 10/11/09.

'93 Jennifer Julian Underwood and David C. Underwood, Mechanicsville, Va., 3/20/10.

'97 Heath A. Gerber and **'03 Julie Doutt,** Midlothian, Va., 10/3/09.

'99 Amanda Rich Morgan and Justin Morgan, Virginia Beach, Va., 5/1/10.

'00 Christopher A. Banta and Kimberly Michelle Boyer, Roanoke, Va., 7/18/09.

'00 William T. DuBois and Jennifer Walsh, Arlington, Va., 10/3/09.

'00 Nicholas J. Watson and Jamie Ricketts, Bloomington, Ill., 5/29/10.

Supporting those "in the arena"

Mike Melo '79

At age 12, Mike Melo (forestry '79) was gifted a piece of paper on which was written a quote from Theodore Roosevelt. That quote, given to him by his father, has served as the North Star in Melo's career—not only during his 23 years in the Navy, but also in his current line of work as the president and CEO of ITA, a government defense contractor that provides clients with analysis, planning, and training.

The name ITA stands for "in the arena," a reference to Roosevelt's 1910 quote: "It is not the critic who counts; not the man who points out how the strong man stumbles, or where the doer of deeds could have done them better. The credit belongs to the man who is actually in the arena."

"Our philosophy as a company is that we've worn a uniform at one time, and so we know what it's like to be in the arena," said Melo. Eighty-five percent of ITA's employees have a military background. "What I've found in the service industry is that it's really easy to be a critic. At ITA, we provide solutions to meet our clients' requirements. Our job is to make our clients successful in their missions. That's our mission."

Since landing its first government contract in 2005, ITA has grown rapidly. It now has 115 employees, and in 2010, the Virginia Chamber of Commerce ranked it the commonwealth's fastest-growing company. From 2005 to 2008, the company's revenue increased 5,779 percent, and despite the rough economy, business is still expanding approximately 15 percent each year. Melo's goal is for ITA to become a $100 million company within the next 10 years.

Of his accomplishments, Melo noted, "It's all because of my bachelor's degree from Virginia Tech. I loved my time at Virginia Tech. That college degree gave me the opportunities I've had in the Navy and in my business."

Hokie Spirit is fast becoming a family tradition. Melo's daughter is a recent graduate of Tech, and his youngest daughter is now in her first year at the university.

'00 Andrea Puckett Wells and Brian Wells, Alexandria, Va., 5/30/09.

'03 James R. Kane and **'04 Lesley J. Stec,** Concord, N.C., 6/20/09.

'03 Brian W. Monteleone and Robin Kay DeJong, London, United Kingdom, 4/10/10.

'04 Amanda Bullock LeReche and **'04 John LeReche,** Norfolk, Va., 9/26/09.

'05 G. Charles Harrison and **'06 Melissa P. Leong,** San Diego, Calif, 6/5/10.

'05 Aimee Elm Miller and Christopher Scott Miller, New Market, Va., 1/16/10.

'05 Robert D. Schmidt and Rachel M. Robeson, Raleigh, N.C., 6/26/10.

'05 Ashley Crockett Wisniewski and Peter Wisniewski, Livonia, Mich., 8/27/09.

'06 Eric F. Detweiler and **'09 Katherine Olson,** Champaign, Ill., 6/5/10.

'06 Joshua D. Elliott and Mary E. Barnett, Rockville, Va., 7/4/09.

'06 Rebecca Hoffner Prillaman and **'08 Kevin Lee Prillaman,** Chicago, Ill, 3/30/2010.

'07 Charles A. Bartocci and **'07 Tiffany S. Napier,** Clifton Forge, Va., 5/08/10.

'07 Blair Padula Demianovich and Nicholas Demianovich, Waukesha, Wis., 10/10/09.

'07 Blake V. Ray and **'08 Mary Scott Ambler,** Milwaukee, Ore., 9/5/09.

'08 Ryan T. Beethoven-Wilson and **'08 Meredith H. Woods,** Arlington, Va., 6/5/10.

Births and adoptions

'81 Paul J. Clarke, Sioux Falls, S.D., a son, 3/19/10.

'86 Kerry A. Koritko, Leesburg, Va., a daughter, 12/14/09.

'87 Daniel B. French, Herndon, Va., a son, 12/18/09.

'91 Sheri B. Cohen, Eatontown, N.J., a daughter, 4/17/10.

'91 Jennifer Palmer Riggleman, Warrenton, Va., a son, 3/21/10.

'91 Michael N. Wynne and **'92 Paula V. Johnson,** New Freedom, Pa., a daughter, 3/9/10.

'92 Julie Barcomb Kamienski, Christiansburg, Va., a daughter, 4/5/10.

'92 Hollis Gardner Vaughen Maple Valley, Wash., a son, 5/17/10.

'93 Lori Wrenn Huff, Charlotte, N.C., a daughter, 1/18/10.

'93 M. Laine Mears, Anderson, S.C., a daughter, 9/23/09.

'94 William K. Barkoskie, St. Augustine, Fla., a daughter, 4/28/10.

'94 Mark A. Clark, Stone Ridge, Va., a son, 4/21/10.

'94 Jerri Bain Girvin, Madison, N.J., a son, 3/25/10.

'95 Lisa Moreno Arnold, Chesapeake, Va., a son, 1/14/10.

'95 Joseph A. East, Stone Ridge, Va., a daughter, 11/24/09.

'95 Heidi Helfrich Susta and **'96 Stefan A. Susta,** Dayton, Ohio, a son, 8/2/09.

'96 Wendy Couchoud Haas, Arlington, Va., a daughter, 3/17/10.

'96 Allison Holaday Holland, Littleton, Colo., a daughter, 3/24/10.

'96 Joel G. Horning, Richmond, Va., a daughter, 12/29/09.

'96 Amy G. Menolez, San Diego, Calif., a daughter, 6/11/10.

'96 Lauri Pizzano Haught and **'96 Martin P. Haught,** Burleson, Texas, a son, 3/26/10.

'96 Kimberly Pedigo Welch, Richmond, Va., a son, 12/8/09.

'96 Suzanne Whitley Witcher, Roanoke, Va., a son, 2/12/10.

'97 Candice Sanders Palmer, Laguna Beach, Calif., a daughter, 2/7/10.

'98 Charlotte Wagner Lukas, Washington, D.C., a son, 3/5/10.

'98 Jennifer Flynn Mizelle, Newport News, Va., a daughter, 2/10/10.

'99 Raphael R. Castillejo, Bonita, Calif., a daughter, 6/13/09.

'99 Vance R. Hodges, Charlotte, N.C., a son, 4/20/10.

'99 Gifford M. Nowland, Lincoln University, Pa., a son, 3/7/10.

'00 Jason R. Andresen, Herndon, Va., a son, 10/29/09.

'00 Kevin J. Benko and **'00 Shelby Zantzinger Benko,** Marietta, Ga., a daughter, 3/15/10.

'00 Kimberly Dail Forbes, Chesapeake, Va., a daughter, 4/17/10.

'00 Jennifer S. Green and **'01 Andrew H. Green,** Bel Air, Md., a daughter, 3/25/10.

'00 Andrew R. Kuti, Richmond, Va., a daughter, 12/29/09.

'01 Stephanie Clevenger Behling, Adamstown, Md., a son, 11/24/09.

'01 Matthew P. Daggett and **'02 Sarah Sarver Daggett,** Arlington, Mass., a son, 12/30/09.

'01 Jessica Bowman Forman and **'01 Patrick R. Forman,** Corpus Christi, Texas, a daughter, 4/8/10.

'01 Becky Staubus Henry, Stephens City, Va., a son, 5/19/10.

'01 Amy Hogge Thomas and **'01 John I. Thomas,** Crozet, Va., a son, 5/14/10.

'01 Erik M. Wishneff, Arlington, Va., a daughter, 3/23/10.

'02 Christopher L. Ford, North Charleston, S.C., a son, 4/18/10.

'02 Stephanie Joy Ruble Jamison and **'03 Benjamin A. Jamison,** Richmond, Va., a daughter, 9/1/09.

'02 Laura Torgersen McGarry and **'03 Matthew R. McGarry,** Herndon, Va., a daughter, 12/24/09.

'02 Michael A. Reardon and **'04 Kelli Parker Reardon,** Charlottesville, Va., a son, 3/11/10.

'02 Jessica Leonard Seppala and **'03 Erik A. Seppala,** Reston, Va., a son, 4/2/09.

'02 David R. Spracher and **'05 Erika Murtaugh Spracher,** Simpsonville, S.C., a son, 4/21/10.

'02 Sarah Bell Van Orman, Portsmouth, Va., a son, 5/7/10.

'03 Kristen W. Day, Mechanicsville, Va., a daughter, 4/21/10.

'03 Kevin M. Gallagher and **'03 Krista Pratt Gallagher,** Arlington, Va., a son, 12/31/09.

'03 Jennifer Lemkul Lewis and **'03 Will Lewis Jr.,** Bristol, Va., a daughter, 10/9/09.

'04 Jennifer Dickison Coffey and **'04 Stephen K. Coffey,** Centreville, Va., a son, 6/1/10.

'04 Jace W. Ely and **'04 Meghan Grice Ely,** Aberdeen, Md., a daughter, 3/1/10.

'05 Eric R. Bonini, Greer, S.C., a son, 5/5/10.

'05 Lauren Burnette Opett, Leesburg, Va., a son, 10/8/09.

'06 Joshua D. Elliott, Rockville, Va., a son, 6/11/10.

'06 Marian Hall Hickes and **'06 Matthew T. Hickes,** Fredericksburg, Va., a son, 12/21/09.

Deaths

'32 Linwood M. Jones, 6/19/09 (2300 Cedarfield Pkwy., Apt. 268, Richmond, VA 23233).

'34 Olaf O. Vaught, 9/2/09 (2920 Demington Ave. N.W., Canton, OH 44718).

'38 Susanne Ellett Berkaw, 5/17/09 (950 Travelers Blvd., Apt. D4, Summerville, SC 29485).

'38 George T. Mehalko, 5/20/10 (3241 Faragut Ct., Falls Church, VA 22044).

'40 Charles F. Bowersett, 5/6/10 (Apt. 146, 1217 Alliance Dr., Virginia Beach, VA 23454).

'40 H.S. Harley, 4/29/10 (62 Delfae Dr., Warsaw, VA 22572).

'40 William C. Thacker, 5/5/10 (142 Breslau Cir., Winston-Salem, NC 27106).

'42 Greta Pratt Call, 2/18/10 (7328 Blanchard Dr., Derwood, MD 20855).

'42 Seymour S. Cutler, 5/2/10 (Apt. 10A, 2521 Palisade Ave., Bronx, NY 10463).

'42 Louis A. Garvin, 5/24/10 (118 Bahia Vista Dr., Niceville, FL 32578).

'42 Richard F. Wilkinson, 5/14/10 (175 W. Queens Dr., Williamsburg, VA 23185).

'43 Cyrus W. Hardy, 2/10/10 (P.O. Box 350576, Palm Coast, FL 32135).

'43 William L. Hawkins, 2/14/10 (105 Carolina Village Rd., Hendersonville, NC 28792).

'43 Julian R. Sedwick, 12/12/09 (137 Diamond Ct., Harrisonburg, VA 22801).

'43 John O. Smith, 1/12/10 (Apt. 102, 200 Greystone Dr., Beaver, WV 25813).

'44 Walter D. Arnold, 5/29/10 (10 Harrow, Bristol, TN 37620).

'44 Bennett P. Miles, 4/15/10 (171 Howeland Cir., Danville, VA 24541).

'44 Kenneth C. Williamson, 4/14/10 (712 Gracelyn Ct., Blacksburg, VA 24060).

'45 Louis P. Chisholm Jr., 5/23/10 (3218 Elk Creek Rd., Mineral, VA 23117).

'45 Leon P. Cook Jr., 4/26/10 (2904 Pioneer Tr., Winston-Salem, NC 27106).

'45 Louise Rash Foutz, 9/21/09 (833 State Rt. 61N, Norwalk, OH 44857).

'45 L. Max Howard, 4/4/10 (501 VES Rd., Apt. C306, Lynchburg, VA 24503).

'45 L. Carl McGraw, 4/18/10 (1737 Garards Fort Rd., Waynesburg, PA 15370).

'46 Hardin A. Gunter, 4/15/10 (1112 W. McGee St., Greensboro, NC 27403).

'46 John C. Pearson, 12/30/09 (Apt. 312, 4080 Hawthorn Rd., Chubbuck, ID 83202).

'46 Robert A. Whitehorne, 5/6/10 (216 Fairfax Way, Williamsburg, VA 23185).

'47 James B. Bush Jr., 11/21/09 (249 Henry Ln., Willis, VA 24380).

'48 William J. Andrews, 11/27/09 (425 S. Mildred St., Charles Town, WV 25414).

'48 Carl M. Beale Jr., 4/5/10 (4600 Deerhurst Garden, Williamsburg, VA 23188).

'49 Ellen S. Button, 6/13/10 (86 E. Grattan St., Harrisonburg, VA 22801).

'49 Mason S. Hicks, 1/31/10 (1415 Summit Ave., Fayetteville, NC 28305).

'49 Elizabeth Marsh Poyser, 4/28/10 (P.O. Box 4539, Pinehurst, NC 28374).

'49 William F. Seymour III, 6/14/10 (2015 Conte Dr., Midlothian, VA 23113).

'50 Charles P. Gilchrist Jr., 5/24/10 (P.O. Box 205, Tappahannock, VA 22560).

'50 William C. Mann, 5/30/10 (768 S.W. Valley Way, Lake City, FL 32025).

'50 Alan J. McClelland, 5/8/10 (13 Duck Pond Rd., Camden, ME 04843).

'50 John D. McDaniels Jr., 6/16/10 (155 Sabinas Ct., Solana Beach, CA 92075).

'50 John M. Scruggs, 4/21/10 (Apt. A417, 600 E. Cathedral Rd., Philadelphia, PA 19128).

'50 George W. Shafer, 6/9/10 (302 E. Michigan Ave., Jacksonville, IL 62650).

'51 John V. Branscome, 4/3/10 (232 Borton Dr., Woodstown, NJ 08098).

'51 I. Kenneth Cassel, 3/22/10 (100 Anna Goode Way, Apt. 220, Suffolk, VA 23434).

'51 James M. Thornton, 4/7/10 (P.O. Box 365, Gate City, VA 24251).

'52 Edward S. Allen, 5/30/10 (1305 Marsh Creek Ln., Collierville, TN 38017).

'52 Charles A. Helton, 1/4/10 (3925 N. Apopka Vineland Rd., Orlando, FL 32818).

'52 George A. Natchus, 4/4/10 (1506 Waylen Loop, Chesapeake, VA 23320).

'52 J.C. Patterson Jr., 4/26/10 (83 Raleigh Rd., Newport News, VA 23601).

'52 David M. Rainey, 5/26/10 (3873 Peakland Pl., Lynchburg, VA 24503).

'52 Jane Hardiman Waller, 2/19/10 (8197 Pine Valley Ln., Germantown, TN 38139).

'53 Leonard H. Bell Jr., 6/17/10 (13107 Boggs Cir., Midlothian, VA 23114).

'53 Harold D. Clements, 10/15/09 (115 Barcroft Ct., Southern Pines, NC 28387).

'53 Norman C. Legge, 5/21/10 (2334 State Rt. 343, Yellow Springs, OH 45387).

'53 Raymond D. Stultz Jr., 4/30/10 (225 Main Blvd., Apt. 2-D, Boynton Beach, FL 33435).

'54 William W. Garnett, 4/19/10 (11785 Loretto Woods Ct., Jacksonville, FL 32223).

'54 Riley J. Stewart, 2/2/10 (P.O. Box 19238, Roanoke, VA 24019).

'55 George C. Georgallis, 5/10/10 (2112 Kipawa St., Raleigh, NC 27607).

'55 Arthur N. Pozner, 4/12/10 (2314 Gillingham Cir., Thousand Oaks, CA 91362).

'55 Leona Hobbs Robbins, 4/5/10 (Apt. 513, 3804 Brandon Ave. S.W., Roanoke, VA 24018).

'56 Charles H. Anderson, 5/27/10 (512 Villa Ave., Front Royal, VA 22630).

'56 Emory J. Fugate, 4/9/10 (934 Malcolm Ln., Kingsport, TN 37660).

'56 Clark D. Leaghty, 5/23/10 (13061 Mid Pines Dr., Ashland, VA 23005).

'56 Michael W. Moore, 11/9/09 (35 Sea Marsh Rd., Amelia Island, FL 32034).

'57 William D. Owens, 5/22/10 (18553 Wyndale Rd., Abingdon, VA 24210).

'57 Benjamin B. Scott, 4/7/10 (224 Holston Dr., Weber City, VA 24290).

'58 Shirley L. Kelly, 5/10/10 (2409 W. Jefferson St., Boise, ID 83702).

'59 Howard M. Cooper, 5/9/10 (118 Webster Rd., Sandston, VA 23150).

'59 Thomas C. Grayson, 2/11/10 (32012 26th Ave. S.W., Federal Way, WA 98023).

'59 John W. Hudson, 5/8/10 (1101 Heather Wood Rd., Bluefield, WV 24701).

'60 Thomas D. Burgess III, 4/29/10 (2130 W. Terrace Dr., Wickenburg, AZ 85390).

'60 Keren L. Coxe, 3/26/10 (2575 Rittenhouse St. N.W., Washington, DC 20015).

'60 Pierce L. Lawing, 6/4/10 (1705 Arapahoe Tr., Edenton, NC 27932).

'60 Thomas S. Martin Sr., 5/13/10 (1208 Laurel Ln., Collinsville, VA 24078).

'61 Glen A. Carey, 3/30/10 (871 Kent Rd., Waynesboro, VA 22980).

'62 Donald M. Ware, 5/31/10 (4290 Scenic Hwy., Mount Solon, VA 22843).

'63 Vincent A. Coppola Jr., 5/21/10 (6624 Castlebrook Way, Ocean Isle Beach, NC 28469).

'64 Charles E. Lester, 5/10/10 (1343 Crown Terr., Marietta, GA 30062).

'65 Julian M. Campbell Jr., 6/5/10 (105 Wexford Way, Peachtree City, GA 30269).

Have skills, will travel

Andrew Selsky '78

Veteran Associated Press (AP) correspondent and editor Andrew Selsky (communication '78), has a knack with pen and paper that has parachuted him into many of the world's hot spots.

In May 2009, Selsky was named Africa editor, charged with leading news coverage for one of five international AP desks. The 54-year-old Hokie oversees bureaus in Johannesburg, South Africa; Kenya, Zimbabwe, Nigeria, and Senegal; and correspondents across 45 countries in sub-Saharan Africa. He and his wife, Zoe, live in Johannesburg with their 14-year-old son; the eldest son, 18, recently moved to the United States for college.

When there's piracy off the coast of Somalia, Selsky is guiding coverage. When the Taliban imposed its fundamentalist laws in 1996, Selsky was in Kabul. He was in Haiti in 1994, when the U.S. military intervened to restore democracy, and he's covered drug-trafficking in Colombia. In a December 2006 story, Selsky provided the first full account of former Guantanamo Bay prisoners, demonstrating that they were routinely freed after being transferred to other countries for continued detention.

"I definitely would say Guantanamo coverage has been the most important and rewarding reporting I have done," said Selsky, who covered the base for about four years while stationed in Puerto Rico. For the coverage, he was named a finalist for the 2008 Daniel Pearl Award for Outstanding International Investigative Reporting, and earned a 2006 Pulitzer Prize nomination. "We managed to shine a light on a secret place."

Such coverage doesn't come risk-free. In 1998, he survived a stark reminder about miscalculations. Selsky followed South African soldiers into Lesotho, assuming it was a routine "mopping-up" operation. But Lesotho forces fought back fiercely. Selsky and two colleagues were pinned down for seven hours by bullets, escaping only after darkness fell.

Selsky was born in D.C. to a father in the CIA, and his childhood included Spain, Holland, and Chile. He chose Virginia Tech for its big-school-but-small-town feel. He specifically recalls the teaching of James I. Robertson Jr. and Bruce Nurse. Both exhibited "that ability to vividly create a situation and explore it from all angles," Selsky said. "Now that I think about it, I've carried that into journalism."

Selsky can't imagine anything better at this stage of his career. Though he's not doing much reporting since leaving San Juan, he's able to shape coverage and coach younger talent.

"I leave work at the end of the day just as satisfied as if I wrote the story," Selsky said. "It's been said that journalists write the first version of history. That's been really special."

'65 Ronald K. Quesenberry, 3/13/10 (94-423 Ukalialii Pl., Mililani, HI 96789).

'66 Frank D. Boone, 5/26/10 (P.O. Box 90, Kennesaw, GA 30156).

'66 Marvin L. Crutchfield, 5/14/10 (443 Mecklenburg Dr., Chase City, VA 23924).

'66 Roy R. Hill, 4/23/10 (6064 Windsor Farme Rd., Summerfield, NC 27358).

'66 Robert E. Shaw, 11/28/09 (25989 Marengo Rd., Easton, MD 21601).

'67 C.W. Green Jr., 5/3/10 (300 Fourth Ave., Farmville, VA 23901).

'67 Charles L. Jones, 5/20/10 (8305 Freret St., Blacksburg, VA 24060).

'67 William A. Mack, 12/29/09 (4 Scarlet Ln., Danvers, MA 01923).

'67 J. Braxton Powell, 5/2/10 (11701 Bundle Rd., Chesterfield, VA 23838).

'68 Herbert J. Caldwell, 4/5/10 (P.O. Box 18, 14679 Highlands Pkwy., Whitetop, VA 24292).

'68 Jack M. Friar, 4/1/10 (113 Traveler's Ln., Beckley, WV 25501).

'69 Frances Evans Duffield, 5/2/10 (1163 Terrace Acres Dr., Auburn, AL 36830).

'69 R.N. Singh, 10/17/09 (14859 Rutland Cir., Chesterfield, MO 63017).

'70 James B. Galyen Jr., 4/4/10 (P.O. Box 22448, Farragut, TN 37933).

'71 Leland B. Lacy, 6/1/10 (P.O. Box 475, Pembroke, VA 24136).

'72 Neal C. Dunn, 6/8/10 (744 Parrish Rd., Statesboro, GA 30458).

'74 Ralph F. Breeding, 5/1/10 (296 N. Five Forks Rd., Monroe, VA 24574).

'74 Susan M. Covington, 11/20/09 (820 Noble Ave., Danville, VA 24540).

'74 Joseph C. Hill Jr., 2/13/10 (299 Bill Jones Dr., Springville, AL 35146).

'74 Carson I. Moore, 5/16/10 (493 Virginia Ave., Harrisonburg, VA 22802).

'74 William C. Phlegar, 4/27/10 (P.O. Box 146, Ripplemead, VA 24150).

'75 Rebecca McGee Allen, 6/10/10 (5420 Lakeland Dr. S.W., Roanoke, VA 24018).

'75 Kenneth L. Sherman, 6/3/10 (7462 S.E. 172nd Fieldcrest St., The Villages, FL 32162).

'76 Kyle D. Austin, 6/2/10 (P.O. Box 743, Buchanan, VA 24066).

'76 Frank L. Berzak, 5/14/10 (4400 Foxridge, Blacksburg, VA 24060).

'76 Phillip W. Reynolds, 4/18/10 (2922 8th St. Ct. N.E., Hickory, NC 28601).

'76 Carl E. N. Takle, 4/26/10 (1019 Springbrook Dr., Plano, TX 75075).

'77 Diana Hibbard Bitz, 6/17/10 (2116 N.W. Seventh Ln., Gainesville, FL 32603).

'77 John B. Hall, 6/13/09 (21 Cavalier Rd., Hampton, VA 23669).

'77 William G. Smith, 5/27/10 (353 Albemarle Ave., Richmond, VA 23226).

'78 Martha Dalton Graham, 4/26/10 (P.O. Box 1455, Hillsville, VA 24343).

'78 Paul A. Kazmierczak, 6/9/10 (4617 Scrabble Rd., Shepherdstown, WV 25443).

'79 Louis H. Horwitz, 3/28/10 (8819 Riverside Dr., Richmond, VA 23235).

'79 Diane H. Prather, 2/17/10 (306 Sixth Ave., Radford, VA 24141).

'79 Jacquelyn Alen Williams, 8/2/09 (725 Prestbury Dr., Conway, SC 29526).

'80 James R. Coulter, 1/19/10 (309 Fairfax Rd, Blacksburg, VA 24060).

'80 Virginia C. Cox, 1/20/10 (564 Marthas Knob Rd., Galax, VA 24333).

'80 Mary J. Gonzalez, 4/16/10 (2616 John Milton Dr., Herndon, VA 20171).

'80 Dean Allen Jones, 2/20/10 (5963 N.C. 42 W., Macclesfield, NC 27852).

'80 Mary Ballard Shipman, 3/25/10 (1201 N. Sterling Blvd., Sterling, VA 20164).

'81 Margaret H. Spiegel, 7/15/09 (4278 Eggleston Rd., Pearisburg, VA 24134).

'82 Thomas W. Kearney, 5/22/09 (9544 Whitecedar Ct., Vienna, VA 22181).

'83 Kenneth F. Crockett, 11/19/09 (100 Sunset Blvd., No. 703, Columbia, SC 29203).

'83 Steven J. Uzmann, 4/10/10 (170 Hill View Rd., West Danby, NY 14883).

'84 William T. Anderson, 5/29/10 (1115 Bluebird Ct., Harrisonburg, VA 22802).

'86 Carrington W. Ewell, 4/2/10 (1524 Somerset Dr., Lynchburg, VA 24503).

'88 Dorothy M. Brewer, 3/30/10 (513 Whitacre St., Winchester, VA 22601).

'88 Emory J. Derrick, 5/21/10 (302 Givens Ln., Blacksburg, VA 24060).

'88 Stephen W. Gravely, 12/24/09 (3553 Longview Dr., Collinsville, VA 24078).

'88 Richard W. Handran, 4/25/10 (Rt. 1, Box 169, Glade Hill, VA 24092).

'88 Margaret L. Redmond, 4/5/10 (12564 Dickerson Mill Rd., Moneta, VA 24121).

'90 Linda Zoller Weinhardt, 1/8/10 (540 Marshall Rd. S.W., Vienna, VA 22180).

'91 Vincent P. Barone, 7/10/09 (4307 Birch Pond Ln., Fairfax, VA 22033).

'93 Daniel S. Fisher, 4/24/10 (4 Audubon Cir., Merrimack, NH 03054).

'96 Faye B. Bass, 5/17/10 (4077 Bridgehampton Ln., Virginia Beach, VA 23455).

'96 Jason A. Huddle, 4/26/10 (128 Rocky Knoll Ct., Denver, NC 28037).

'08 Zachary R. Eckhart, 4/12/10 (5404 Keel Dr., Pensacola, FL 32507).

'08 Neil A. Van Pelt, 6/16/10 (29065 Eleys Ford Rd., Richardsville, VA 22736).

In memoriam: Charlie L. Yates

Charlie L. Yates, 74, the first African-American graduate of Virginia Tech, a member of the corps of cadets and later a member of the College of Engineering faculty, died in August after a long battle with leukemia.

Yates made history in 1958 as the first African American to graduate from Virginia Polytechnic Institute (VPI), part of a South that still largely practiced segregation. He graduated with a bachelor's degree in mechanical engineering with honors.

"Charlie was a pioneer among young black Virginians in the 1950s. He helped knock down barriers at Virginia Tech that opened the doors for others to follow," said President Charles W. Steger. "He will be long remembered throughout this academy for his many accomplishments."

Yates obtained a master's degree from Cal Tech in 1959. In 1978, he earned a Ph.D. from Johns Hopkins. He returned to Tech in 1979 to serve as a faculty member in the mechanical engineering department until 1983, and again in 1987, when he served as an associate professor of aerospace and ocean engineering. He remained at Tech until retiring in 2000. Yates also served a term on the Virginia Tech Board of Visitors.

Read the full story at *www.vtnews.vt.edu/articles/2010/08/081110-coe-yates-memoriam.html.*

Faculty obits

Rev. Norman L. Grover, professor emeritus of religion, died June 15, 2010. He was a theologian and philosopher. Grover joined the newly formed Department of Philosophy and Religion (now the Department of Religion and Culture) in 1957 and served as head of the department until 1975. He continued teaching in the department until his retirement in 1994.

Stephen Mark Hunter (MBA '87), associate director of career services, died June 24, 2010. "Mark was a valued member of the career services staff for 24 years as associate director of information systems and assessment," said Donna Cassell Ratcliffe, director of career services. "He was an integral part of all the successes we achieved with student and employer services—taking us from the mainframe platform to today's technology."

John Daniel "J.D." Stahl, professor of English, died July 15, 2010. A professor, author, and scholar of children's and American literature, Stahl led a distinguished career at Virginia Tech. Joining the faculty in 1982, he transformed the children's literature program from a single undergraduate survey course to a highly respected set of undergraduate and graduate courses. Stahl received the W.E. Wine Award for Excellence in Teaching in 2008 for his decades-long work to guide a generation of young teachers, writers, and scholars.

Associate Professor Emerita **Margaret Groseclose "Peggy" Skelton,** a faculty member for more than 20 years and one of the university's most dedicated and generous supporters, died July 19, 2010. She joined the faculty of what was then the College of Home Economics in 1952 and later directed its Cooperative Extension Family Resource Program.

In retirement, she continued to help the university in many roles as a volunteer and philanthropist, along with her husband, William E. Skelton, dean emeritus of Virginia Cooperative Extension, who passed away in 2008. The university's conference center is named for the couple.

The Virginia Tech Alumni Association made Peggy Skelton an honorary lifetime member in 2001 as a result of her longstanding work on the university's behalf. The Skeltons were charter members of the Ut Prosim Society and its President's Circle, the university's highest distinction for donors.

Addison Caldwell Boy on a mission?

BY CLARA B. COX M.A. '84

In 1991, Virginia Tech learned that William Addison "Add" Caldwell tramped 26 to 28 miles across two mountains to reportedly become the first student of Virginia Agricultural and Mechanical College (VAMC, today's Virginia Tech) when VAMC opened on Oct. 1, 1872. But since the publication in 1972 of D. Lyle Kinnear's *The First 100 Years: A History of Virginia Polytechnic Institute and State University*, there has been some question about *why* Caldwell registered that day.

Curiosity or intention?

"There is a completely unverified legend that Caldwell's appearance at the college was motivated more by curiosity than by any intention to enroll as a student," Kinnear wrote. "Certainly he had not been nominated for a state scholarship by his county superintendent of schools, as it sometimes has been asserted. Whatever his real motive may have been, immediately he was given a state scholarship by the faculty and enrolled as the first student in Virginia Agricultural and Mechanical College."

Anyone who has traced Caldwell's path to Blacksburg by participating in the Caldwell March, a trek by the corps of cadets that breaks the first student's walk to campus into two 13-mile stretches, one in the fall and one in the spring, would argue that a 26-mile hike is a lot of energy to invest in mere curiosity.

And records in the Library of Virginia provide a strong argument against Kinnear's conclusion that Caldwell did not have a scholarship before arriving in Blacksburg.

On Dec. 6, 1872, Virginia Gov. Gilbert C. Walker instructed the Committee on Public Instruction to ascertain from VAMC President Charles L.C. Minor the number of students, the date of matriculation, and the counties from which they were appointed. He also requested information on the number of students whose expenses were not defrayed by the state. Minor complied on Jan. 8, 1873.

In his report, Minor noted scholarship status beside the name of each student, with two scholarships identified. An "A" designation meant that the student was a county school board appointee, and a "B" identified a student "enjoying the same privileges by appointment of the faculty under authorization of the executive committee of the board of visitors." A "C" indicated a student paying his own tuition.

An "A" follows Caldwell's name. With scholarship in hand, it is more likely that he made the long walk from Craig County with the sole purpose of registering as a student.

Was he the first?

Some people question whether Caldwell actually was the first student to register, a question made difficult to answer because the university's records burned in the early 1900s.

Support for Caldwell's place in Virginia Tech history can be found in Minor's 1873 report, which records students by day of matriculation and not by alphabetical order. The first name on the list for Oct. 1 is that of William Addison Caldwell. An oral tradition also exists in Craig County that he was the first student, according to county historian Jane Johnston.

Who was he?

Born on Jan. 10, 1856, Add Caldwell grew up on a farm in the Sinking Creek community of Craig County, the second of nine children. When he was 16, he and his older brother, 18-year-old Milton M. "Mic" Caldwell, left their home and walked to Blacksburg, according to Mic's daughter, the late Katherine Caldwell Mendez.

Mic, however, waited until Nov. 2 to register. His name on Minor's list is followed by a "B." Both teenagers, then, had state scholarships, although from different appointments, to apply to the $30 tuition and $10 fees.

Another brother, Frank, enrolled in 1874, but neither he nor Mic graduated. Add did, but he took an extra year to complete the three-year program in agriculture, finishing with VAMC's second graduating class. A report card indicates that he excelled in written compositions, military tactics, and farm work; was "satisfactory" or nearly so in French, natural history, and composition and rhetoric; and was "tolerable" or worse in mathematics, chemistry, and bookkeeping.

During college, he joined the Maury Literary Society and attained the rank of second sergeant of VAMC's Company B. On graduation day, Aug. 9, 1876, he was elected secretary of the class alumni association.

The adult Add Caldwell, second from left, front row, with seven of his eight siblings. Sitting beside him are Mic, to the left, and Frank, to the right, both of whom attended VAMC but did not graduate. Photo courtesy of the late William Addison "Bill" Caldwell, nephew and namesake of Virginia Tech's first student.

After graduating, he worked as a schoolteacher in Craig County and then as a clerk at Norfolk and Western in Roanoke, Va., where he was described as a well-known and popular employee. He moved to Wilmington, N.C., around 1898 and worked, probably as a salesman, for several large wholesale firms.

Sometime before 1910, Caldwell's health declined. Doctors told him that salt air would be good for him, so he secured a job as a clerk at a Wrightsville Beach, N.C., hotel. "I have not been here long enough to tell whether the salt air is going to benefit me or not. I am feeling about the same, no worse, no better," he wrote Mendez on June 15, 1910.

A few days later, he sustained a severe head injury when he fainted. He died on June 29, 1910, in a Wilmington hospital. His funeral was held in his mother's home—by then she had moved to Radford, Va.—and he was buried in the family cemetery nearby.

Today, the Add Caldwell Lounge in G. Burke Johnston Student Center, the library's e-catalog (known as Addison), a statue, and the Caldwell March remind us that education meant so much to a teenage boy that he hiked 26 miles and struggled through an extra year of classes. In doing so, he forged a path for thousands of students who turn to the state's land-grant institution to acquire the skills and knowledge that can lead to a richer life and better future.

Clara B. Cox is the former director of publications for University Relations.

See the fall 1991 issue of Virginia Tech Magazine *for a more detailed biography of Add Caldwell. The article is available online at* http://scholar.lib.vt.edu/ejournals/VTMAG.

Virginia Tech
105 Media Building (0109)
Blacksburg, VA 24061

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