

VirginiaTech

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Hokies helping the world

CAREER launchers | Student researchers



JOHN MCCORMICK

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Alumnus recalls cheerleading days

In the fall 2009, vol. 32, No. 1, issue of *Virginia Tech Magazine*, you published a [letter to the editor] by Glenn Oxley '56 titled "Clearing up Cheering History." The [letter] included a photo of the cheerleading squad.

The cheerleading squad photo you posted was the 1952-53 squad. If you will look in the 1952 *Bugle* you will see the first cheerleading squad that had girls on it. I was the head cheerleader and was the one who brought girls on the squad for the first time in the fall of 1951, my senior year. I can only tell you that it took a whole lot of work to get approval for the girls.

We only had four girls approved. One was Meta Ann Chestnut, later married to

"Inspiring professor" articles in the works



Virginia Tech Magazine is making plans for a new series of articles that focus on outstanding faculty members, and we want to hear your views on what the selection criteria should be. Please send your ideas to Editor, *Virginia Tech Magazine*, 105 Media Building (0109), Blacksburg, VA 24061, or respond via e-mail to vtmag@vt.edu. We hope to hear from you soon.

Glenn Oxley. The four girls did a fantastic job that first year. You can't imagine the hours of training we had to undergo to make the girls fit in. I will say that I remember Meta as she was so cooperative and worked so hard.

Please send my condolences to Glenn Oxley on Meta's passing. My wife, Janice, and I met at Tech in the fall of 1952. We have been married 56 years last June. I am so grateful to Tech for her coming to get her master's.

Bill Leetch ('52)
Jupiter, Fla.

Architecture program ranks high

I read with interest Tech's high [rankings] in a *U.S. News* survey as highlighted in the fall 2009 edition article, "Tech programs rank high in survey." I would like to add to the list. Virginia Tech's College of Architecture and

Urban Studies was recently recognized in an *Architectural Record* feature article, "America's Best Architecture Schools—2010," released in November 2009.

Hokie architecture ranked No. 4 among the top 10 undergraduate architecture schools in the nation, and No. 8 among the top 10 graduate programs, a list that included such notable names as Harvard, Yale, Princeton, and MIT.

It's no small task to be recognized by a prestigious publication such as *U.S. News* but quite an honor to be recognized by one's own profession! Those lights aren't burning all night over at Cowgill for no reason! Congrats to the great faculty, staff, and students (and alumni!) inventing the future of architecture.

Daniel A. Buehler ('80)
Nashville, Tenn.

[Editors note: See new architecture rankings on page 6.]

Director named for Center for the Arts

Ruth Waalkes, former director of artistic initiatives at the Clarice Smith Performing Arts Center at the University of Maryland, assumed duties in September as the executive director of Virginia Tech's Center for the Arts.

Waalkes has overall responsibility for the programming and operation of the center, a yet-to-be-built complex of new and renovated facilities that will house a 1,300-seat performance hall; a visual arts gallery; and teaching and research spaces that will include a creative technologies lab, a collaborative performance lab, and a communications studio.



Michael Badawy

Pamplin professor receives lifetime achievement award

Michael Badawy, professor of management in the Pamplin College of Business, received the International Association for Management of Technology's 2009 Lifetime Achievement Award.

The award, the association's highest honor, is granted to individuals for their "valu-

able and sustained contributions in support of education, research, and academic service in the field of management of technology." The association was established in 1987 as a nonprofit society dedicated to advancing technology management research and education.

Badawy, the first recipient of the award, was recognized for his "internationally acclaimed work, pioneering leadership, distinguished research, dedicated service, and institutional building in advancing the technology management discipline." His research interests cover many aspects of the interdisciplinary field of technology and innovation management. He teaches at the university's Northern Virginia Graduate Center, National Capital Region.

Virginia Tech remains a top 50 research university

Virginia Tech ranked 46th among 679 universities in 2008, according to the just-released National Science Foundation rankings, which is based on research expenditures for the fiscal year (FY) ending June 30, 2008. Rankings lag a year behind reported expenditures.

The university reported \$373.3 million in expenditures for FY 2008, an increase of less than \$7 million over FY 2007, when Virginia Tech ranked 42nd with \$366.9 mil-

Theatre 101 opens in green, grand style

The arts at Virginia Tech have a new space. The environmentally friendly Theatre 101 building held its grand opening with a full slate of activities the last weekend of October.

An academic building with performance space, the 8,500-square-foot theatre will accommodate between 60 and 140 guests with audience seating that can be easily moved or removed, which will allow the entire space to be adapted to the artistic elements of a production.

The canopy-covered entry on College Avenue was designed to serve as a stage area for future Steppin' Out performances. Movable glass panels at the entrance lobby façade can be opened on warm evenings. Similar panels, located at the rear of the performance theatre, open onto an exterior amphitheatre.

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lion. Due to budget shortfalls, state research funds were phased back significantly in FY 2008 after helping to launch several research initiatives, such as infectious disease and nanotechnology research.

Engineering ranked No. 1 for industry workforce recruiting

Aviation Week & Space Technology magazine has named the College of Engineering the No. 1 school

in the country for industry workforce recruiting. The top ranking is a first for the college in the magazine's annual Workforce Study of Aviation and Defense.

In recent years, the college ranked either No. 2 (2007) or No. 3 (2008), behind Penn State, Purdue University, and the University of Illinois. This year, however, Virginia Tech outranks Penn State, Purdue, and California Polytechnic University, which tied for second place.



Collegiate Times reporter named College Reporter of the Year

Collegiate Times writer Caleb Fleming, a junior majoring in economics, has been named the National College Reporter of the Year by the Associated Collegiate Press.

The top college reporter in the country award is the highest individual honor for a collegiate journalist. It includes \$500, courtesy of the McClatchy-Tribune Information Services.

Fleming competed against students from Harvard and Yale universities in the four-year college category. The awards were announced Nov. 1 at the National College Media Convention in Austin, Texas. More than 2,200 college journalism students and advisors attended the 2009 convention.

Although the study focuses on Virginia Tech's aerospace and ocean engineering department, the aviation and defense industries recruit from all College of Engineering programs, says Chris Hall, who heads the aerospace and ocean unit.

Nobel Prize winner has Tech connection

The first woman to win a Nobel Prize in economics is a researcher for a Virginia Tech-managed international program. Elinor Ostrom has won a share of the 2009 prize

based on her work on how community institutions can prevent conflict. The 40th Nobel Prize goes to Ostrom, a researcher for the Sustainable Agriculture and Natural Resource Management Collaborative Research Support Program (SANREM CRSP), managed by Virginia Tech's Office of International Research, Education, and Development.

Ostrom shares the \$1.4 million prize with Oliver Williamson, a professor in the graduate school at the University of California, Berkeley. In announcing the award on Oct. 12, the Royal Swedish Academy of Sciences cited Ostrom "for her analysis of economic governance, especially the commons."

Ostrom is the principal investigator for SANREM CRSP on how government policy reforms do not automatically translate into new property rights for forest users or show clear benefits to the environment.

VBI receives \$27 million for infectious disease research

On Oct. 12, 2009, Ninth District Congressman Rick Boucher joined senior Virginia Tech officials

to announce the award of approximately \$27 million from the National Institutes of Health (NIH) to the Virginia Bioinformatics Institute at Virginia Tech.

The five-year, \$27 million contract from the National Institute of Allergy and Infectious Diseases, part of the NIH, is the largest one-time federal award in the history of Virginia Tech. The funding will be used by the CyberInfrastructure Group to support infectious disease research across the globe, namely to integrate vital information on pathogens, provide key resources and tools to scientists, and help researchers to analyze genomic, proteomic, and other data arising from infectious disease research.

Engineering extends partnership with Fujitsu

The College of Engineering and Fujitsu America extended their alliance agreement through the 2012 academic year.

In April 2006, the college announced that it would require its entering freshmen to purchase convertible tablet PCs. This type of PC has all of the functionality

of a laptop and the additional capability to act as a notebook for pen-based input.

A month later, the college announced its decision to partner with Fujitsu and Microsoft to support its new PC requirement. At the time, Glenda Scales, associate dean of engineering, said the decision was based on price, weight, service, screen size, and years of experience with tablet PCs. Today, Scales remains in agreement with this original assessment after seeking competitive proposals from a number of vendors for a new three-year alliance.

Grad student wins Outstanding Commitment Award

Sarah Swenson, a Virginia Tech graduate student in urban and regional planning, has received a 2009 Outstanding Commitment Award from Clinton Global Initiative University in partnership with the Pat Tillman Foundation and the Walmart Foundation.

Swenson received one of 78 grants bestowed by the organizations to support innovative, high-impact commitments to action designed to strengthen communities and lives around the world.

Swenson plans to develop

an ecological sanitation project at a secondary school in Nakuru, Kenya. The sanitation system would create employment, improve the community's health, lower rates of pollution, and create access to sanitation. It would also teach students about the benefits of recycling their waste into nutrients.



Liviu Librescu

Center named for hero of April 16 shootings

Liviu Librescu, who died while trying to save his students during the April 16, 2007, shootings in Norris Hall, has been memorialized in the renaming of the Engineering Science and Mechanics Student Engagement Center as the Liviu Librescu Student Engagement Center.

The center is housed in one of six new rooms created when Virginia Tech renovated and re-opened the second

floor of the west wing of Norris Hall. Librescu was one of 32 professors and students who died that day. The new center name was proposed by faculty from the Department of Engineering Science and Mechanics in the College of Engineering and was formally approved by the Virginia Tech Board of Visitors on Nov. 9.

Librescu, who came to Virginia Tech in 1985, became one of the university's most respected educators and researchers in the field of aeronautical engineering. Pat Artis (engineering science and mechanics '72) and his wife, Nancy, provided a gift to furnish the center.

Graduate School enrollment reaches new heights

Virginia Tech's Graduate School has its largest class, enrolling a total of 6,947 students on all campuses. This milestone continues a growth trend, a goal of the university's strategic plan, that has climbed steadily since 2005.

According to Karen P. DePauw, vice president and dean of graduate education, 4,114 master's students and 2,833 doctoral students are enrolled. This growth highlights the consistent and steady increase

in doctoral students, who now comprise more than 40 percent of the Graduate School community. Overall, graduate students constitute 22.5 percent of the total Virginia Tech student population.



X.J. Meng

Meng named to National Institutes of Health study section

X. J. Meng, a professor in the Virginia-Maryland Regional College of Veterinary Medicine, has been appointed as a permanent member of the prestigious virology study section of the National Institutes of Health (NIH).

In this role, Meng will review grant proposals made to the NIH virology study section and make recommendations for funding. The NIH is a component of the U.S. Department of Health and Human Services.

Visit www.vtmagazine.vt.edu/ to learn more about current happenings at Tech, such as:

Dennis Hong honored among *Popular Science's* "Brilliant 10 of 2009"

Professors learn about higher education needs in Iraq

Researchers invent world's smallest antenna

Green practices and hotels: A gap in consumer attitudes and behavior

Doctoral student reaches out to area refugee girls with after-school program

Pamplin College and Virginia College of Osteopathic Medicine launch dual-degree program

University recognized as sustainable campus leader

The College Sustainability Report Card for 2010 has recognized Virginia Tech as

a sustainable campus leader. Transportation, one of the categories that contributes to the university's overall grade, received an "A" for the third year in a row.

Agriculture and Life Sciences develops new equine program

The College of Agriculture and Life Sciences has announced plans to create a new equine education program at the Middleburg Agricultural Research and Extension Center located in Middleburg, Va.

An undergraduate student learning experience in equine sciences will serve as the cornerstone for the teaching program at the center. In addition, Virginia Tech will relocate its world-class group of sport horse mares from Blacksburg to Middleburg, adding to the band of horses in residence at the center.

The semester-long experience will not only prepare students for positions in the equine industry, but will also provide them life skills as they work as part of a cohesive unit during their stay at the center.



The report card gives detailed information for hundreds of college campuses nationwide. It rates individual programs and areas, such as transportation, food and recycling, and student involvement. These ratings determine the institution's overall sustainability grade.

The programs available at Virginia Tech through the Alternative Transportation unit on campus, such as the carpool program; Bike, Bus, and Walk; fare-free boarding for Blacksburg Transit; discounted Smart Way Bus passes; and, most recently, U Car Share, raise the bar for sustainable transportation in Blacksburg.

Mining engineering to lead ventilation study

Virginia Tech's Department of Mining and Minerals Engineering has received a \$1.24 million, five-year contract from the National Institute for Occupational Safety and Health to study the effects of roof falls, bumps, or explosions on underground mine ventilation systems.

Kray Luxbacher, an assistant professor in the department, is serving as principal investigator for the study. She will be supported by Saad Ragab, a professor in the Department of Engineering Sciences and Mechanics; Robert Boggess, a research

associate; and Harold McNair, professor emeritus in the Department of Chemistry, who brings expertise in gas chromatography and computational fluid mechanics to the interdisciplinary project.

The project, titled "Development of a Method for the Remote Characterization of Underground Mine Ventilation Controls by Multiple Tracer Gases," will use gas tracers as a means of remotely ascertaining information about ventilation control systems following a mine collapse or explosion.

Architecture programs among nation's best

Virginia Tech's undergraduate landscape architecture program, part of the School of Architecture + Design in the College of Architecture and Urban Studies, ranks No. 1 in North America in the 11th annual America's Best Architecture and Design Schools study by *DesignIntelligence* on behalf of the Design Futures Council.

The university's graduate landscape architecture program ranks No. 2 in North America, behind Harvard University. The master of landscape architecture program is offered both in Blacksburg and in the National Capital Region.

Alumnus dies in Afghanistan war

BY COL. ROCK ROSZAK '71 AND MAJ. CARRIE COX M.S. '99

Capt. David "Seth" Mitchell (English '01) died on Oct. 26, 2009, while supporting combat operations in Helmand Province, Afghanistan. Mitchell, who was stationed at Camp Pendleton, Calif., was an AH-1 Super Cobra helicopter gunship pilot and a member of Marine Light Attack Squadron-367.

He is the eighth Hokie to be lost on operations since 9/11 and the fourth member of the cadet class of 2001 to make the ultimate sacrifice. The 30-year-old Marine was laid to rest in Arlington National Cemetery on Nov. 6. On campus, the Marine Raiders Company provided an honor detail to place a memorial wreath at the War Memorial. Mitchell's name will be etched on one of the pylons, and a dedication ceremony will be held in the spring.



Capt. David "Seth" Mitchell

Mitchell enrolled at Virginia Tech in 1997 as a member of Echo Company. He earned a ROTC scholarship after his freshman year and rose in the ranks to become the executive officer of Golf Company during his senior year. He was also a member of the German Club and Ring Design Committee and served as the male member-at-large for the Class of 2001.

"As a company executive officer, Seth played a key role in the training of the members of the Class of 2004 during their demanding first year in the Virginia Tech Corps of Cadets. I vividly remember that he was an enthusiastic cadet and that he always had a big smile on his face," said Maj. Gen. Jerry Allen, commandant of cadets. "Our thoughts and condolences are with his family, friends, and fellow Marines."

"I and many [of Mitchell's fellow cadets] are extremely saddened by the news of the passing of a great person, ca-

det, and officer in Seth Mitchell. . . . Seth had a tremendous impact on our leadership development both as a cadet and as a college student," said Sean Thorne (civil engineering '02).

Upon graduation, Mitchell was assigned to Camp Lejuene, N.C., and served tours in Okinawa, Haiti, and Iraq as part of an infantry unit. He had dreamed of becoming a pilot, but poor eyesight left him unqualified for the military aviation program. After corrective eye surgery, he earned his private pilot's license and a Marine aviation training spot. He received his wings in May 2007 and later qualified to fly the AH-1 Super Cobra helicopter.

Marine Capt. Joe McAlarnen (marketing '01) recalled Mitchell's determination. "Whether it was the ability to push through physical discomfort in pursuit of completing OCS [Officer Candidate School] or choosing to adjust his career path in the Marine Corps in order to

pursue a lifelong dream, Seth knew who he was, where he was going, and how to achieve his goals. Seth died doing what he had always wanted, flying attack helicopters in support of Marines on the ground. He was proud of his mission and proud of his service, and I will always be proud of having been his friend."

Mitchell is survived by his parents, Steve and Connie Mitchell, and his brother, Drew Mitchell, all of Cary, N.C., as well as two grandparents and several aunts, uncles, and cousins. His family has requested that donations be made to the Intrepid Fallen Hero's Fund (www.fallenherosfund.org) in his memory.

Col. Rock Roszak is associate director, Virginia Tech Corps of Cadets Alumni Relations, and Maj. Carrie Cox is the executive officer, Virginia Tech Corps of Cadets.

CAREER launchers

BY STEVEN MACKAY

An incredible number of National Science Foundation (NSF) Faculty Early Career Development (CAREER) Awards have gone to Virginia Tech faculty members, especially during the past two or three years. A CAREER Award isn't just a feather in the cap—a highlight on a vita—for an up-and-coming professor. The highly sought-after grants can launch a researcher's career, giving him or her the monetary means—\$400,000 or more—to stock an academic toolbox for a long time, in the words of one winner.

Virginia Tech's approximately 70 CAREER Award winners often secure additional research grants and attract other types of recognition after they receive the prestigious CAREER Award. For example, Marc Edwards, from civil and environmental engineering, has since won the John D. and Catherine T. MacArthur Foundation fellowship and garnered national headlines for exposing America's deteriorating water infrastructure. Dennis Hong, from mechanical engineering, recently was named among the *Popular Science* "Brilliant 10 for 2009" and has been featured in top stories by *The Washington Post* and CBS News after leading a student team in rigging a dirt buggy so that it can be driven by the blind.

However, not every CAREER award winner captures zinger headlines. Most are working on projects that the public doesn't know about but soon will rely on just the same.

Learning nature, naturally

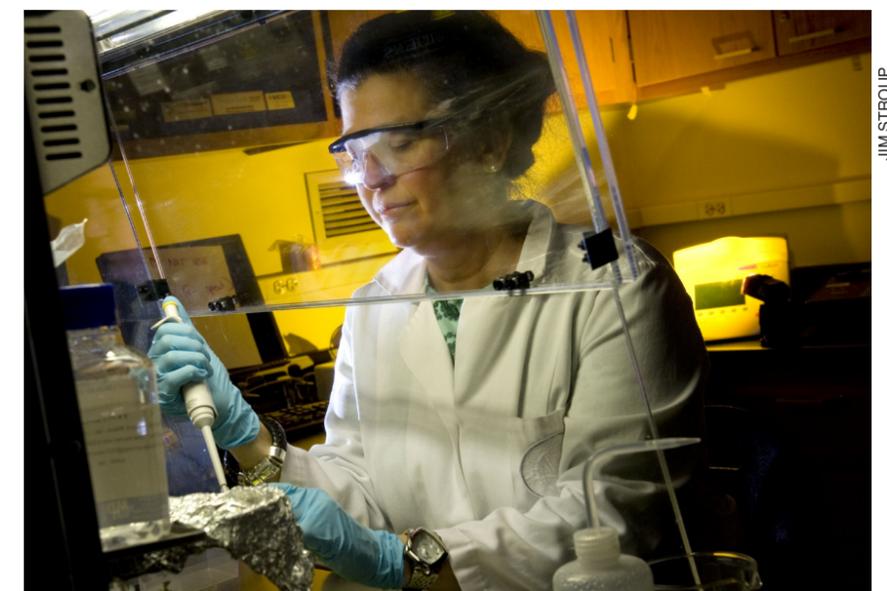
Taranjit Kaur is breaking new ground in studying the habitat life of chimpanzees. In the 2003 abstract of her \$752,320 CAREER grant, Kaur, an assistant professor of biomedical sci-

ences and pathobiology in the Virginia-Maryland College of Veterinary Medicine, said that an understanding of natural wild habitats—rhythms, cycles, dangers, and magic—cannot be recreated in a sterile laboratory. Her solution? Take a high-tech lab to the wilds of Tanzania's Mahale Mountains National Park. This successful effort is essential to her Bush-to-Base Bioinformatics program.

Kaur lived in the Tanzanian wild

habitat of chimpanzees, along with her fellow researcher/husband and young daughter, for the better part of a year. There, she began studying how humans come in contact with chimpanzees and how viruses—respiratory colds for instance—can spread from human to ape. These animals have no immunity to human illnesses and could die.

The research required high-tech tools and a safe enclosure in which to work,



Taranjit Kaur used her CAREER Award grant to begin studying the transfer of viruses from humans to apes.

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CAREER Award winner Craig Woolsey works with students Laszlo Techy, Mark Monola, and Eddie Hale (top to bottom) on improving small robotic aircraft.



Diego Troya (left) calls his CAREER grant “huge” in developing a “robust toolbox.” At right, Troya (center) helps William Alexander (left) and Joshua Layfield set up simulations for their satellite-protection research.

eat, and sleep. Using the CAREER grant, Kaur developed the Portable Laboratory on Uncommon Ground (PLUG) with faculty members and students in the College of Architecture and Urban Studies. The result was a compact futuristic tent lab built of lightweight aluminum-skinned panels, high-tension fiberglass rods, and fabric and powered by solar panels. Sleeping quarters are located above the work area. Its carbon footprint is negligible.

Kaur says her time in Tanzania was magical, mystical, and dangerous. “You adjust. You have what you have, and that’s it,” she says, adding that no call for 911 can help with an emergency or a bout of malaria. She and her family readjusted to “the natural rhythm of the earth, where your day begins at sunup and ends at sundown.”

Kaur is keen on the flow of nature in her teaching as well, eschewing the vertical god-disciple approach of the classroom for a horizontal approach in which she passes on information to her college charges, who in turn teach local elementary school students, who in turn teach their own classmates. “The idea is that once you learn something you’re not done with it,” Kaur says. “There’s a bigger

picture out there, and they are part of it and have a responsibility.”

The Pennsylvania native is a first-generation college graduate, having chased bats from trees for fun as a child and worked in large animal research clinics before she was old enough to drive. What the second generation of college students will accomplish, one wonders.

Protecting satellites from the harshness of space

Launching a satellite into space isn’t a done deal. It’s more akin to tossing a featherweight boxer into the ring between Jake LaMotta and Sugar Ray Robinson. Once the satellite is in low Earth orbit (LEO), roughly an altitude of 100 to 400 miles, it spins around our planet at an astonishing 18,000 miles per hour. That amounts to 15 days and nights—vast changes in temperature from facing the sun to being on the “dark side” of the Earth—in a single 24-hour period. The quick, harsh temperature changes wreak havoc on a satellite’s electronics. And that doesn’t factor in the energetic solar radiation, which cannot be protected by the lower-lying ozone layer, or the high-energy collisions with the oxidizing natural species of LEO.

These harmful agents pummel a spacecraft by pricking, chipping, tearing, and eroding its exterior, protective surfaces. Diego Troya, an associate professor in the College of Science’s chemistry department, is seeking ways that hold off the inevitable damage and thereby extend the life of satellites and other spacecraft, such as the International Space Station or the Hubble Telescope. Doing so can save untold millions of dollars in replacement craft or mid-space repair jobs. Troya is a theoretical chemist who creates computer models that provide microscopic-level details of a spacecraft’s astonishingly fast journey around the Earth and the hazards it endures. His ongoing \$550,000 CAREER grant is dedicated to developing computational technology that will help crack the mystery of the damage to the polymer surfaces coating spacecraft.

“It was huge,” Troya says of winning a CAREER grant in 2006. “It gives you the necessary peace of mind to carefully develop a robust toolbox that you and other people can use to study complex problems.” He since has received additional funding from the U.S. Air Force, the U.S. Department of Energy, and the Research Corporation for Science Advancement to continue his work. Diego works with

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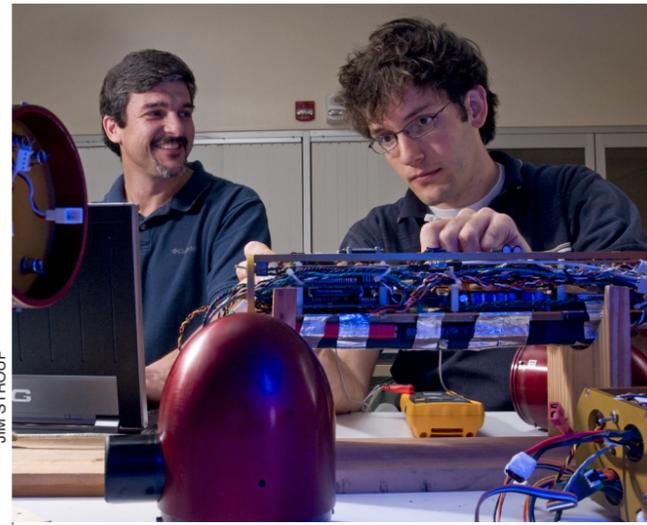
two assistants, Joshua Layfield, a fourth-year graduate student, and William Alexander, a postdoctoral associate. “I train them to write computer codes, set up simulations, and analyze them, but it’s their work that determines the success of our enterprise,” Troya says.

Since Russia’s Sputnik 1 shocked the world in 1957, satellites have undergone massive changes in protection and design to lengthen their endurance and capabilities. But the task is far from complete. Work on improving the lifetime of satellites and spacecraft will continue as long as humans reach for space, and Troya will be there to help see that happen.

Building autonomous craft for sky and water

Unmanned boats, submersibles, and aircraft have been the stuff of sci-fi lore for decades, with fiction becoming fact only during the past several years. Consider, for example, the unmanned aerial drones regularly carrying out U.S. military reconnaissance and attack missions in Afghanistan. The future of autonomous craft on sea, air, and land is wide open for both military and scientific purposes, and two of the field’s leaders, Dan Stilwell and Craig Woolsey, are members of the College of Engineering faculty.

Now an associate professor in the Bradley Department of Electrical and Computer Engineering, Stilwell in 2003 received a \$400,000 CAREER grant and a \$300,000 Young Investigator Program award from the U.S. Office of Naval Research to develop groups of low-cost miniature autonomous underwater vehicles (AUVs) that cooperate underwa-



Dan Stilwell (left) supervises the work of graduate student Brian McCarter on autonomous underwater vehicles.

JIM STROUP

ter. Woolsey, of the aerospace and ocean engineering department, won the same awards in 2002. His research focused on internal shape control for ocean and atmospheric vehicles and low velocity attitude control for underwater vehicles using internal actuators.

Both men spearhead research labs dedicated to building unmanned craft. Stilwell’s group is the Autonomous Systems and Control Laboratory, while Woolsey runs the Nonlinear Systems Laboratory. Both researchers led the development of the Virginia Center for Autonomous Systems, a college-level organization that seeks to support and promote autonomous vehicle research at Virginia Tech. At the center, dozens of faculty members and graduate students contribute to a broad field of autonomous vehicle systems for air, ground, and maritime use.

Among Stilwell’s Department of Defense-funded projects are small torpedo-shaped submersibles, developed with Wayne Neu, associate professor of aerospace and ocean engineering, that one day will be used for Navy and scientific applications. Stilwell and Woolsey also are collaborating to develop a fast 16-foot outboard motor boat that will be able to quickly and autonomously explore

river systems as a reconnaissance scout.

“Field work with autonomous underwater vehicles is especially challenging because we cannot see the AUV when it is underway,” Stilwell says. Among the challenges the researchers face are unknown drops and dips in ocean or river bottom surfaces, unseen debris, and bacteria and aquatic life. No one can stop a shark from taking a chomp on a spy drone. And

power sources must last for months or even years. “We need to have confidence in our hardware and our algorithms so that the AUV completes its mission and returns home without human help.”

For unmanned aerial vehicles (UAVs), much of Woolsey’s work has focused on improving the performance and reliability of small robotic aircraft. The UAVs developed in Woolsey’s laboratory have been used to demonstrate military applications, such as the collection of image and signal intelligence, and scientific applications, such as environmental monitoring. “One of the great advantages of both AUVs and UAVs,” Woolsey says, “is that they can perform the dirty, dangerous, or dull missions cheaper and with less risk to life and property.”

That mission, coupled with scientific endeavors, will keep Woolsey, Stilwell, and other engineering faculty members who build unmanned vehicles busy for years to come.

To see a list of Virginia Tech’s numerous CAREER Award winners, go to www.vtmagazine.vt.edu. □

Steven Mackay is the college communications coordinator for the College of Engineering.

Hokies helping the world:



Many make UT PROSIM their life's work

BY DENISE YOUNG

Those who deck themselves in Hokie hues know that Hokie Spirit runs deep, and perhaps nowhere does one find this fact more pronounced than in the numerous Virginia Tech alumni and students who dedicate themselves to helping the world. For many Hokies, this means taking their service to the professional level, using the skills and spirit they learned on campus to serve others across the globe through careers built around humanitarian efforts. Regardless of what form the service takes, alumni and students are making good on their commitment to serve, instilled throughout their years at Virginia Tech.

Nicebuy.org: Funding philanthropy, one purchase at a time

Though Joe Casola, a triple major in chemistry, math, and biochemistry, and Kevin Eberling, a finance major, are still Virginia Tech seniors, they've managed to find the time between classes to establish NiceBuy.org, a nonprofit website funded by affiliate-link commissions with retailers ranging from Walmart to Amazon.com.

Here's how the site works, according to Eberling: "Users go to NiceBuy.org and click on a retailer link before shopping online; after clicking on the link, the computer tells the retailer that the user was referred by NiceBuy.org." When the user makes a purchase, a percentage of the profits go to NiceBuy. It's the same system used by for-profit websites. The only difference is that the money raised by NiceBuy funds charitable causes.

Currently, proceeds from the site are divided between Green Empowerment, an organization that helps poor villages in developing countries build sustainable infrastructure to enable development and access to health care, education, and

economic growth, and AsoFénix, a nongovernmental organization in Nicaragua. There, the money goes to such projects as installing electricity for five schools and five health centers, installing irrigation pumps, and establishing electrical grids to reach 300 homes.

NiceBuy.org didn't come to fruition overnight. Both Casola and Eberling admit that it took a lot of groundwork to get the site up and running; Eberling says the two often worked 60 hours a week during the development and design phase. And maintaining the site while still attending school has been a challenge, they admit.

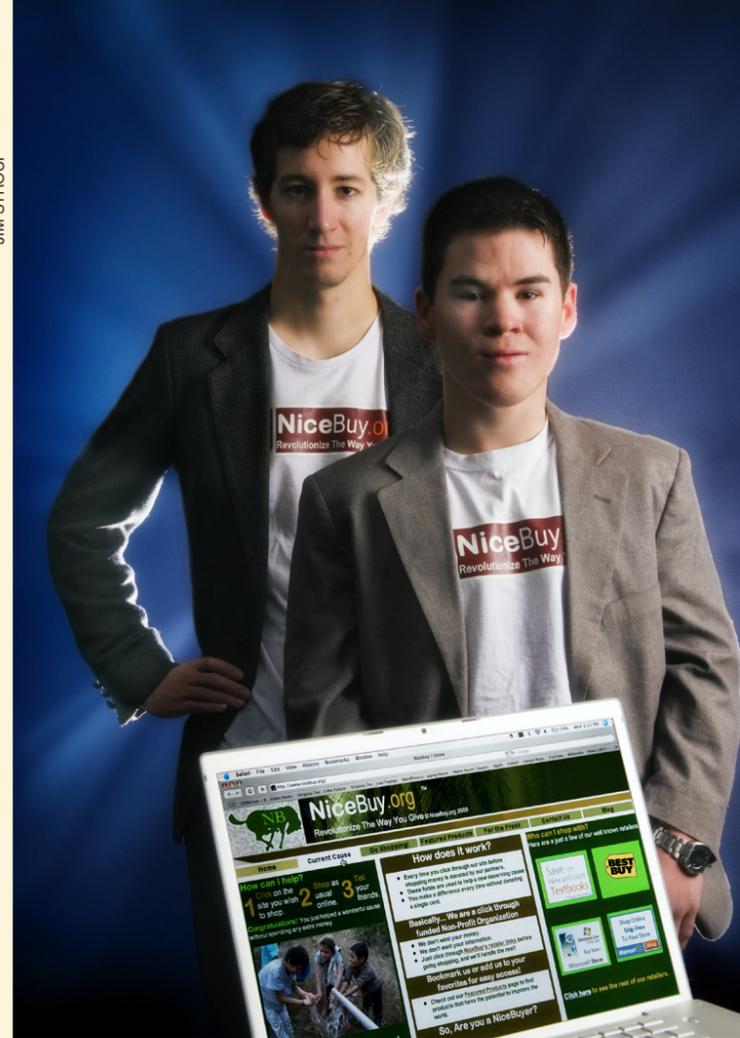
"In the beginning of the year, before our launch when we were still working on the website design and the model, it was very difficult to juggle everything. Since the website design was finished, I've been able to put more time back into my course work," says Casola.

"Some weeks I feel like I should have done more school work and other

weeks I feel like I should have done more NiceBuy development. On the other hand, all of the help we've been getting from our new team members has been amazing," adds Eberling, who stresses a partnership with the Virginia Tech chapter of the Public Relations Student Society of America as one form of assistance the organization has received, in addition to two computer science majors who've lent their skills to the project.

Though both students intend to pursue other endeavors after graduation—Casola is interested in intellectual-property law, and Eberling leans toward the corporate-finance sector—both say they intend to continue their work with NiceBuy. "As long as it is continuing to help people, I see myself involved," says Casola.

JIM STROUP



Joe Casola (left) and Kevin Eberling, founders of NiceBuy.org



Inspired by a trip to the Dominican Republic as a Virginia Tech student, alumna Caitlin McHale (center) now heads Project Esperanza, which provides food, shelter, and educational opportunities to Haitian boys and young men living in the Dominican Republic.

along," McHale says. "I feel like until now we have been in the infant and toddler stages, perhaps entering into young childhood."

She now spends most of her time in the Dominican Republic, where she lives with her husband and son. For McHale, the Dominican Republic has become more and more like home. "I would

and a good ethic mindset along with a strong understanding of how to live with others."

Global Goods Partners: Promoting women-led development

Cecilia Foxworthy (clothing and textiles '02) directs operations and marketing for Global Goods Partners (GGP), where she helps create artisan jobs and provides access to a global market for women from more than 22 countries. "My work gives women in developing countries the opportunity to lift themselves out of poverty and provide their families with better options," she says.

Established in 2006, GGP provides market access to women in developing countries, allowing them to use artisan skills such as sewing, knitting, and jewelry making to help support themselves. It then supplies commercial avenues for selling these goods, including its website, www.globalgoodspartners.org, where customers can purchase anything from yoga bags and children's toys to beaded bangles and hand-embroidered scarves. All of the goods are fair trade, meaning that producers receive a fair living wage, operate in a democratic workplace, and are provided clean and safe work environments.

"While charity and emergency relief are very important components of international aid, my main focus is economic development in order to help create a sustainable and self-sufficient society within the marginalized regions in which I work," Foxworthy says.

"The women GGP works with continually express the desire to have con-

love to have a little house here with my family, a garden, some chickens and other animals, a basketball hoop, some nice shady trees, and fruit trees."

Right now, Project Esperanza is integrated into her personal life. In 2008, McHale lived at the boys' home, where she says she was just "an extra bed and an extra plate of rice and beans," but she says that as her family life has grown, the need for a separation has grown as well. She hopes one day to travel more to the U.S. to promote the organization's activities in the states, including a learning center designed to help children and families in a New River Valley trailer park.

Watching the progress of the boys in the home and school in the Dominican Republic, McHale says, has been the most rewarding aspect of the project. "Some of the boys have been very thankful and have let me know that they believe several of them would be in jail or dead if it weren't for Project Esperanza.

"Speaking with them and considering who to place and where to place them has been very rewarding—being able to look back at where they were a few years ago and see how they have matured and how they really do have hope for their future

Project Esperanza: Providing hope to homeless children

When Caitlin McHale (interdisciplinary studies '06) arrived in the Dominican Republic as a Virginia Tech freshman, she saw a need. She visited the country through an organization called Orphanage Outreach, which leads volunteer trips to orphanages. "After two trips, we formed Project Esperanza," she says. The organization's name has a double meaning: first, it is the name of the town in which the nonprofit has its roots; second, it is the Spanish word for hope.

Now based in Puerta Plata, Project Esperanza serves up to 150 Haitian boys and young men. These children go to the Dominican Republic in search of work but often find themselves living in poverty without access to education. Project Esperanza, as its name suggests, gives them hope, providing them with food, shelter, and an education, as well as helping them to find jobs and support themselves financially when they are ready.

"I always compare leading Project Esperanza to a type of motherhood because I have felt like a mother with a child all



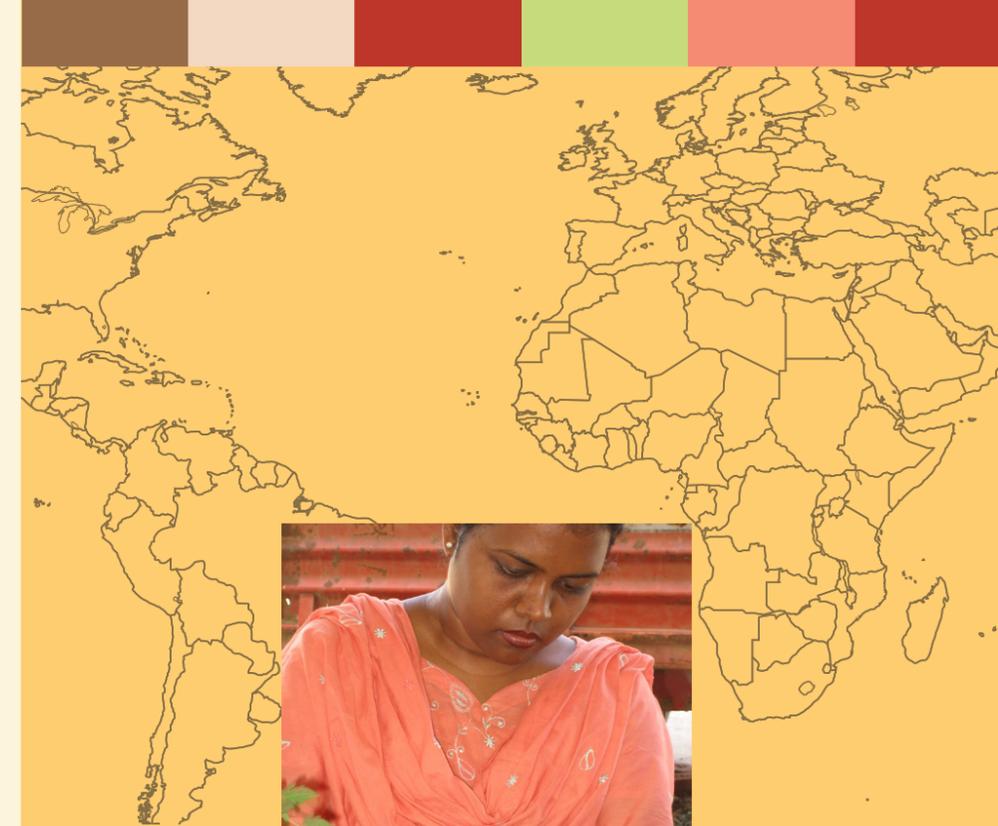
Cecilia Foxworthy (right) and Catherine Shimony, a GGP co-founder, search near Lake Atitlan in Guatemala for new artisan partners for GGP.

trol over their own fates and to be able to contribute to their families economically. The market access and technical assistance GGP provides to them is not only an income-generation opportunity, but is also a means to women's empowerment and community improvement."

Foxworthy credits her experiences at the university with preparing her to do the work: "The degree program I pursued at Virginia Tech gave me the flexibility to carve my own path."

Casola's words echo those of Foxworthy about how Virginia Tech prepares its students for helping others through humanitarian organizations, whether this means working for an existing nonprofit or starting a nonprofit from scratch. "From Relay for Life to the alternative-break program to the Big Event, I've been so impressed by the level of commitment this campus shows toward helping others. Virginia Tech has been a great institution of learning for me and, more importantly, a great community for me to learn from." □

For Casola, Eberling, Foxworthy, McHale, and numerous other Hokies, *Ut Prosim* is more than a motto—it is their life's work.



OIRED: Improving lives across the globe

BY MIRIAM RICH

The Office of International Research, Education, and Development (OIRED) is an unusual unit at a university. The office leverages the assets of a large, land-grant university, in particular its knowledgeable faculty, to improve life in developing countries. The arrangement is win-win: the large agencies that provide the funding, such as USAID, get the expertise of Virginia Tech professors in helping them solve development problems, and the professors get opportunities to conduct research and share the results, both here and abroad.

A growing portion of OIRED projects focuses on post-conflict countries, such as Southern Sudan, Nepal, Haiti, and Liberia. "We're trying to construct anew or re-construct what the conflict has wrought," says Mike Bertelsen, associate director of OIRED and associate dean of the College of Agriculture and Life Sciences.

OIRED's current portfolio of \$64 million allows it to carry out an array of projects across the globe.



Re-creating agriculture in Southern Sudan

Faculty members are working with two regional universities in Southern Sudan to develop new programs in agriculture and natural resource management. Since the region recently emerged from nearly a half century of civil war that killed or displaced millions and destroyed nearly all educational infrastructure, it desperately needs an educational structure in place to train the next generation of agricultural teachers, extensionists, and researchers. “The challenges are enormous, but the natural resources are there. It’s an incredibly rich area, and the people we’ve worked with are highly motivated. They really want to develop their country and put it on the road to prosperity,” says Bertelsen, principal investigator on the project.



Saving the eggplant crop in Bangladesh

In rural Bangladesh, eggplant is a dietary staple and an important income-earning crop. When a disease

in the soil destroyed the eggplant crop several years ago, the results were devastating. Through an OIRED-managed project, women throughout the affected area have been learning to graft a high-yielding variety of eggplant onto a variety that is resistant to the soil-borne scourge of bacterial wilt. The grafting provides income for the women, who can now purchase milk for their children and send them to school. Their work allows farmers to continue growing eggplant. This project is one of many under the Integrated Pest Management Collaborative Research Support Program.



Developing conservation agriculture in Haiti

Everyday challenges are enormous in Haiti’s central plateau. Severe soil degradation, high erosion rates, and soils with declining water-holding capacity make growing crops difficult, producing the lowest yields in the western hemisphere. Faculty members from Virginia Tech are working with experts at Zanmi Agrikol (affiliated with Partners in Health, the Paul Farmer organization), Caritas Hinche (a Catholic nongovernmental agency), the State University of Haiti, and the Haitian Ministry of Agriculture to develop conservation agriculture in the area. According to Theo Dillaha, director of the Sustainable Agriculture and Natural Resource Management Collaborative Research Support Program (SANREM CRSP), which oversees the project, “Conservation agriculture is farming that does three things: it minimizes tillage of the soil, maintains a continuous organic cover year-round, and includes crop rotations.” Such practices restore soil fertility and

reduce erosion, and agriculture becomes more resistant to climate change, thereby improving one facet of life in the central plateau.



Creating conservation professionals in Nepal

In Nepal, forests harbor unique biodiversity and play a vital role in the economy of rural communities. OIRED, along with Yale University and Principia College, is creating the Memorial Center of Excellence at the country’s Institute of Forestry that will develop the next generation of conservation professionals in the resource-rich country. The center will serve as a memorial to 24 national and international conservation experts who were killed in a helicopter crash in Nepal in 2006. As the birthplace of community forestry—the practice of organizing the use of forest resources around the needs of a community—Nepal is an appropriate site for this project. “Students are learning to work in community and not only be better stewards of the land, but also be socially inclusive, a critical skill in highly stratified Nepali society,” says Tom Hammett, professor of forestry and partnership director for the project.

Helping hippos in Zambia

Drought, deforestation, and farming are threatening the deep-water habitat of hippos in Zambia. Under a SANREM project, Conrad Heatwole, a Virginia Tech professor of biological systems engineering, is studying how agriculture, commerce, and tourism affect water supply and, in turn, wildlife in Zambia’s South Luangwa National Park. The techniques Heatwole is using are also being applied in the Andean region of Bolivia and



Ecuador to combat poor practices in farming, grazing, and forestry. On both continents, the goal is to teach farmers how to make a living without threatening biodiversity and natural resources.



Re-establishing forest communities in Liberia

A 14-year civil war in Liberia threatened to eradicate one of its major resources: the largest contiguous forest block in West Africa. The forest is a critical biodiversity hotspot that is integral to the livelihood of local people. Through a Virginia Tech-led program, Liberian government officials are learning to balance the needs of forest conservation, community forestry, and commercial forestry.

Through these projects and others, OIRED is changing lives in developing countries worldwide. ▣

Miriam Rich is communications director for the Office of International Research, Education, and Development.

Kids' Tech University:



SHAPING THE FUTURE OF SCIENCE

BY BARRY WHYTE

Many experts agree that children need to be introduced early to the excitement of science, technology, engineering, and math if the United States is to remain competitive in the global scientific community. A new program at Virginia Tech takes that need to heart, engaging children with science by showing them how exciting and fun it can really be. Kids' Tech University (KTU) offers youths between the ages of 9 and 12 inspiring lectures, stimulating hands-on activities, and complementary online educational experiences.

European pedigree

Sponsored principally by the Virginia Bioinformatics Institute (VBI) and Virginia Cooperative Extension's 4-H Youth Development Program, KTU is

the first educational program of its type offered in the United States. Reinhard Laubenbacher, VBI professor and deputy director of education and outreach, discovered the original concept in a German newspaper article. Says Laubenbacher, "Hundreds of children have been attending individual lectures on science on the weekend at universities around Germany, which speaks volumes for the program and the enthusiasm of the kids. I wanted to see if we could build something similar in the United States."

After talking to the German project founders, Laubenbacher and his team put the necessary infrastructure into place, and kids enrolled for a semester of KTU. "We had a huge response from parents and children interested in the program and quickly realized that we were tapping into a significant educational need," says Laubenbacher.

KTU students attended lectures in a campus lecture hall, had lunch in campus dining facilities, and tackled hands-on activities that built on lecture concepts. A key feature of KTU is that the fun and excitement of the university experience continues through an online lab component, which includes activities that promote a continued interest in the lecture topics and a forum to promote discussion and teamwork.

Says Cathy Sutphin, 4-H associate director of youth development, "Through hands-on learning, KTU participants apply the ideas presented during lectures and explore other avenues. By connecting youth to the university, we increase the chances that they will not only choose a STEM [science, technology, engineering, and math] field but that they will also consider attending Virginia Tech."

KTU students heard scientists relate

engaging stories about their research. Keith Devlin, known as "The Math Guy" on National Public Radio and co-founder and executive director of Stanford's Human-Sciences and Technologies Advanced Research Institute, kicked off proceedings in January 2009, answering the question "Why are there animals with spotted bodies and striped tails but no animal with a striped body and a spotted tail?" In subsequent months, Caitlin Kelleher (computer science '98), assistant professor of computer science and engineering at Washington University in St. Louis, explained why some computer programs can be so frustrating, and Louis Guillette, professor and director of the Howard Hughes Group Advantaged Training of Research Program at the University of

PHOTOS BY IVAN MOROZOV, VBI

"We have been able to attract scientists to KTU who have shared their enthusiasm for science in a way that has captivated the children," Laubenbacher continues. "Our biggest challenge remains financial support. Despite an oversubscribed program and great feedback from children and parents, KTU continues to live in a no-man's land for funding since it is not tied to formal K-12 education or a formal university education. We are hoping to secure private and company donations to support our second semester lineup of KTU lectures and hands-on activities."

School's back

The second semester begins in

KTU students tackle hands-on activities that build on lecture topics.



"We had a huge response from parents and children interested in the program and quickly realized that we were tapping into a significant educational need," says Reinhard Laubenbacher of VBI.

Florida, described how he wrestles alligators in the Florida swamps to study the effects of environmental contaminants on wildlife. The first semester ended with an up-close look at what it would take to live on Mars, the lecture topic of Phil Christensen, Regents Professor and the Ed and Helen Korrick Professor of Geological Science at Arizona State University.

"The first semester of KTU was made possible due to contributions by many volunteers from the Virginia Tech community and beyond," says Laubenbacher. "Without their help, we would not have been able to put on an event of this scope, and their assistance going forward will be a key part of our success.

January 2010. "This semester, KTU has a partnership with Tazewell County Public Schools and Tazewell 4-H to reach and involve economically disadvantaged students and their parents with the KTU program," says Kristy DiVittorio, VBI's co-principal investigator on the project.

An additional component of the program will encompass training teachers from around Virginia, providing them with opportunities to acquire Continuing Education Units to advance their professional career development. Kathleen Jamison, Extension specialist for 4-H Youth Development, will spearhead this initiative.

New and returning children will tackle questions like "What is the smallest thing a person can see?" and "Why can't humans walk on water and climb walls with their fingertips like spiders?" Harvey Mudd College Mathematics Professor Arthur Benjamin, who has

appeared on The Today Show, CNN, and National Public Radio, will demonstrate his mixture of mathematics and magic, which he calls "mathemagics," and explain how to mentally solve complex math problems faster than a calculator. Returning KTU lecturer Louis Guillette will explain why alligators are important to the swamps and what they can tell us about the world in which we live.

"We have something special here," says Laubenbacher, "which I would like to see take root across the country. We can provide virtual resources that will make it possible for other universities to set up their own KTUs across the United States. In this way, I believe we could take a big step forward for the future of science in this country."

Barry Whyte is the strategic and research communications officer for the Virginia Bioinformatics Institute.

Student researchers: Breaking the mold in pursuit of knowledge

BY DENISE YOUNG

Some 46 percent of seniors who graduated in May 2009 had participated in undergraduate research, according to Vice President and Dean for Undergraduate Education Daniel Wubah.

Part of the reason for such a high percentage is that research is not confined to the sciences but also encompasses other fields, such as the fine arts and architecture. In the non-science fields, research often takes the form of what Wubah calls “discovery-based creativity”; in other words, students learn by creating or designing original works in their field.

In Wubah’s opinion, research of all kinds should be a key component of education. “One of my primary goals is that all undergraduate students will have the opportunity to be engaged in these sorts of experiences,” he says. And his office has taken steps to ensure that undergraduate research will continue to grow as part of the undergraduate experience.

The human-powered submarine team designs, builds, tests, and races a submarine propelled solely by human power.

Whether it’s discovery-based creativity, such as an architecture student designing a solar house, or the hands-on engineering experiences offered by the Ware Lab, students across the university are engaging in research in its many faces and forms.

Agriculture in the Andes

In summer 2009, Lindsay Hall and Jess Martin trekked to Ecuador with a group of undergraduates to help rural villagers improve their farming techniques. After two weeks of intensive Spanish language courses, the group set off into the Andes Mountains, where they interviewed local farmers about their participation in workshops given by the Ecuadorian ministry of agriculture, dairy, water, and fisheries.

The students’ role was to determine how farmers were using the methods discussed in the workshops, but it was also an experience in cultural discovery.

“My whole career has focused on finding the connection between social, environmental, and economic issues,” says Hall, an environmental policy and planning senior. The most important thing the internship taught her, she says, was that people are willing to make changes to help the environment if you give them an economic incentive. “They’re so dependent on the environment that they’re willing to take steps to protect it.”

Martin, a senior majoring in geography, crop and soil environmental sciences, and environmental policy and planning, says the internship was the perfect opportunity to combine her interests in language, agriculture, and travel. “For me, it was like all of the different parts of my life just came together.”

Martin’s long-term career goal is to focus on highland agriculture in Nepal, where Tibetan refugees and the poorest Nepalese compete for land use. “When something happens that’s unfair, especially with respect to people’s livelihoods—the land and markets they



The students’ role was to determine how farmers were using the methods discussed in the workshops given by the nation’s ministry of agriculture, dairy, water, and fisheries. It also provided the students with an experience in cultural discovery.

PHOTO COURTESY OF THE WARE LAB

have access to and the environmental degradation of their homes—you have to get riled up about it. Passion is the driver of activism.”

“When you see firsthand people suffering from problems related to the environment, it inspires you; it puts things in perspective,” adds Hall, who plans to attend law school to focus on environmental law.

Research puts many things in perspective for other undergraduate students as well—and provides them with hands-on experiences they will remember for a lifetime.

Understanding autism

When Susan White, a psychology professor in the College of Science, of-

fered Rose Nevill an opportunity as an independent evaluator in a treatment study focused on teenagers with autism, it was the end of a search for Nevill. “I wanted to find some research experience because I am applying to graduate schools,” says Nevill, a senior psychology major.

For Nevill, the position blends her desire for research experience with her interest in treatment options for people with autism and intellectual disabilities. Her role is to evaluate study participants as they begin the 12-week cognitive-behavioral therapy program and then to re-evaluate them at the end of the study to determine if the treatment has helped them. All of the participants have high-functioning autism, which means that they attend school and can speak and communicate. Still, because

of their autism, they often have high anxiety and struggle in situations ranging from approaching new people to school performance to specific phobias. Nevill sits down with each participant and tries to identify which issues cause them the most stress. Then, graduate students counsel the teenagers based on her findings.

“It made me realize that treatment is specifically an area I want to go into as a profession. Before I was unsure about that path,” says Nevill of the experience. She says having a mentor like White has really helped her navigate the waters between undergraduate studies and pursuing graduate work. “Dr. White’s also been a great mentor to me. She’s given me a lot of help in applying to graduate schools. She really trusted me with the role of independent evaluator, not something you’d usually give to an undergraduate, so she really gave me some great opportunities.”

From paper to practice

Corey McCalla, a fifth-year architecture student, is a perfect example of how students can put theory into practice and put terminology to use in their research endeavors. McCalla served as a lead student on the Lumenhaus project, in which students from four Virginia Tech colleges designed and built a solar house.

McCalla worked on an interdisciplinary team whose skills encompassed architecture, landscape architecture, industrial design, computer science, engineering, and business. He also worked with professionals in the field, such as those from companies sponsoring the program, architects, and lighting specialists. “The joy of working on the project was that I got to work with and

learn from people in so many different fields,” he says.

The house was entered in the Solar Decathlon in Washington, D.C., in fall 2009, where the team was among 20 others from around the world whose houses were judged on various criteria, including architecture, engineering, market viability, and net metering (the amount of power the panels produced in excess of the home’s requirements). The team was also selected as the only U.S. team to participate in the Solar Decathlon Europe competition in June 2010.

After graduating in May, McCalla will follow the solar house to Madrid for the competition. Though he does not know whether he will attend graduate school or seek a job in the architecture field after that, he’s glad for the experiences he’s gained through the project. “I’ve been part of the project from start to finish, which gives me a foot in the door or a jump start. I’ve also met professionals and seen what that world is like. That gives me a significant advantage.”

The Undergraduate Research Institute

Established in 2005, the Undergraduate Research Institute (URI) in the College of Liberal Arts and Human Sciences (CLAHS) reflects a desire to promote and facilitate the research endeavors of undergraduates in the college.

“In every career there are forms of research,” says Diana Ridgwell, URI director. “Learning how to think critically and analytically helps students no matter what field they’re in. It helps them come full circle with their learning.”

The URI facilitates research by



JIM STROUP

“I WAS REALLY INTERESTED IN THE ETHNOGRAPHY BEHIND THE MUSIC,” FAYEZ SAYS, ADDING THAT PUNK ROCK IS A PERSONAL INTEREST OF HERS. “IT WAS A VERY VALIDATING EXPERIENCE TO EXPLAIN MY EXPERIENCES IN MORE ACADEMIC TERMS.”

Rana Fayeze

offering courses and by helping to match students with faculty mentors, promoting undergraduate involvement in faculty-led studies, and providing grants to aid students in their endeavors.

Rana Fayeze, a senior communication major, has benefited from the resources offered by the institute. In addition to an Undergraduate Research Diversity Grant from the Center for Academic Enrichment and Excellence, Fayeze received a \$500 URI grant to pursue co-cultural research on the role of minorities in punk rock culture. She visited cities such as New York and Washington, D.C., to conduct interviews and eventually co-presented her findings with her faculty

mentor, Edd Sewell, at the Undergraduate Research Conference on campus and at the Popular Culture Association in the South Conference in Wilmington, N.C.

“I was really interested in the ethnography behind the music,” Fayeze says, adding that punk rock is a personal interest of hers. “It was a very validating experience to explain my experiences in more academic terms.”

Fayeze says that a breakthrough moment for her came during a class taught by Ridgwell on research methods. “I learned through the class that it’s OK to do research because you’re trying to learn more about yourself, as long as it will also help others.”



Rose Nevill

JIM STROUP



The Ware Lab: Revolutionizing undergraduate education

BY DENISE YOUNG

Whether it's designing submarines and racecars or building bridges, the Joseph F. Ware Jr. Advanced Engineering Lab—commonly called the Ware Lab—makes it possible for undergraduate students to apply what they've learned in the classroom—and to gain some “real world” experiences along the way.

Established in 1998, the Ware Lab currently houses 14 student-led research projects. The facility is devoted solely to projects led and managed by undergraduates in the College of Engineering.

With 10,000 square feet of workspace, the Ware Lab consists of bays dedicated to such projects as a steel bridge, a human-powered submarine, and a hybrid electric vehicle. It also houses dedicated machine and welding shops and a computer-aided design lab that allow students to complete most of their work on site instead of sending parts somewhere else.

“A lot of schools have graduate research facilities, but the Ware Lab is

The Baja SAE team designs a single-seat, off-road buggy to compete in international competitions.

PHOTO COURTESY OF THE WARE LAB

different because it's just for undergraduates,” says lab Manager Dewey Spangler. “People who come through here say this represents a revolution in undergraduate education.”

For the students who use the lab, the space offers unique opportunities for learning that complement their education in the classroom.

Michael Bromley, a senior mechanical engineering student, heads the Formula SAE (Society of Automotive Engineers) team, whose goal is to design and build a formula-style racecar for an SAE competition. The teams work on a two-year design and build cycle: as juniors, they design, moving on to manufacturing and building the vehicle in their senior years. Bromley says the two-year cycle offers a great opportunity for students to learn from other students, with juniors often shadowing seniors who worked on the same part of the project the year before.

“Since everything is built in-house, we really learn a lot about the manufacturing side of things,” he says.

Down the hall, Charlie Holbrook serves as co-captain for the Baja SAE team. The single-seat, off-road buggy they design is created around a 10-horsepower engine, a component they aren't allowed to modify. “It helps to have something concrete and apply the theories we're learning,” says Holbrook, a senior mechanical engineering major. “It also shows a potential employer that you know how to apply what you've learned.”

“It's no surprise that companies have long been hiring Hokies,” says Richard Benson, dean of the College of Engineering. “Our students are engaged in building something, and in the process they learn a lot.” □

For more information about the Ware Lab and current student projects, visit www.eng.vt.edu/warelab/index.php.

Recovering THE PAST

BY KELLSEY LEQUICK

may shed light on THE FUTURE



This 1909 photo shows Booker T. Washington speaking at the institute. Washington, shown standing on the steps of Morris Hall, supervised the educational program at CI and appointed faculty until his death in 1915.

VIRGINIA TECH SPECIAL COLLECTIONS

Growing tired of seeing their alma mater fade away, a group of Christiansburg Institute (CI) alumni joined forces in 1976 to save the last three buildings standing. The skeleton of the two-story, Georgian brick building, known as the Edgar A. Long Building, is the outstanding remaining physical evidence of CI and the century of education it provided for the region's African Americans.

The institute's past

The close of the Civil War left hundreds of former slaves and their children with freedom but little opportunity. Blacks had been denied education, and now, thirsting for it, they crowded into one-room schools established and run by people who knew that education was the key to success.

Christiansburg Institute, founded in 1866, was one of those schools. Initially called the Hill School, it was operated by Charles S. Schaeffer, a white ex-Union officer working with the Friends' Freedmen's Association (FFA) of Philadelphia. This one-room school and a sister school in the district served 300 black students. To accommodate so many students, Schaeffer and the FFA, a Quaker organization, raised funds for additional school buildings, giving birth to Christiansburg Institute.

Booker T. Washington, founder and principal of Tuskegee Institute, became CI's supervisor in 1895. Washington promoted peaceful race relations in addition to black pride, group support, and vocational training. Under his watch, the school evolved into the Christiansburg Industrial Institute. The curriculum was both academic and vocational, offering such courses as English, math, history, and Bible, as well as cooking, sewing, carpentry, and animal husbandry.



Edgar A. Long, second principal of Christiansburg Institute

By 1924, the industrial institute was a state-accredited high school, but the local public school board did not assume responsibility for its operation until 10 years later. In 1947, "Industrial" was dropped from the name, and Christiansburg Institute joined Virginia's segregated public school system.

Although the Supreme Court had ruled segregation unconstitutional in 1954, it took the 1964 Civil Rights Act and the threat of withdrawing federal funds to spur Virginia to react. Rather than integrate CI, the school board abandoned it. Much of the campus was auctioned off; the remaining land was set aside for the building of a desegregated Christiansburg High School.

Preserving and promoting a legacy

Preventing the wrecking ball from crashing through the Long Building, now a Virginia Historic Landmark, was the first organized effort to preserve CI. That effort continues to gain momentum, thanks to the work of Christiansburg Institute Inc. (CII), a nonprofit organization founded in 1996 to "preserve and promote the historic Christiansburg Institute through enacting its legacies of education, service, and excellence." CII is now working with local governments and universities to reopen Christiansburg Institute—as a museum, archive, and community learning center. "The hope for the institute is that it will be integrated into the community in a meaningful way," says Elaine Carter, CII executive director.

The school board may have closed CI's doors to avoid integration, but today, integration will reopen those doors. CII is working with Virginia Tech, Radford University, the towns of Christiansburg and Blacksburg, and Montgomery County to become an asset to the present and future community.

The ant and the elephant

The relationship between Virginia Tech and CII began in 1992 and continues to evolve, with CII moving from the university's peripheral vision into clearer focus during the past two years. "You can only be a partner when there is mutual interest, when there is mutual gain," says Carter. "If you look at it as the ant and the elephant, what is it that we have to offer?"

Virginia Tech sees an opportunity for engagement, an integral part of its mission as a land-grant university. Early ties to CII involved the university's Service Learning Center and several professors in the College of Arts and Sciences (now the College of

"The hope for the institute is that it will be integrated into the community in a meaningful way," says Elaine Carter, CII executive director.

Liberal Arts and Human Sciences). These ties still exist, but the university is also "finding areas of activity that not only meet the needs of that community asset [CI] but also inform the scholarship and advance the strategic interest of the university," says John Dooley, vice president of Outreach and International Affairs. "From our standpoint, we would like to see ways in which our students can be actively involved in both teaching and learning at CI—for it to become a laboratory for our students. I see loads of opportunity for service learning."

Associate professors of history Dan Thorp and Tom Ewing, involved in the collaborative efforts, have observed the opportunities CI makes available to students assisting with the research and archiving. "This department is beginning to provide some training for our students who are interested in going into public history for a career," says Thorp, who chairs the department. "We'd like to provide them with the

opportunity for more hands-on experience. That's one element of our partnership."

The collaboration provides CI with university resources, contacts, and expertise as Virginia Tech makes available resources that CII would otherwise not have access to. "The weight of Virginia Tech taking an interest in us escalates us," says Carter. "It's a breakthrough of university-community relationships. The relationship has to stand up against time. It has to engage enough energy that it will be an appropriate and legitimate thing for the university to do."

Answers for the future

Christiansburg Institute's lifelong legacies—intergenerational learning, individual fulfillment, responsible and active citizenship, equality, and justice—are ideals to still aspire to. "Elaine has been very consistent in always wanting to address those larger issues and pursue those larger questions," Ewing says. "She sees the project not only as preserving the memory of that particular institution, but using it also as an example of these larger processes having to do with race, opportunity, equality, justice."

"How do you get people who have been enslaved and brutalized to become the kind of citizens the United States has today?" Carter asks. "How do you get that? How do you get people to cope with who they are at the same time that the world is oppressing

them because of who they are?"

"These are the kinds of questions Christiansburg Institute has answers to. These are the kinds of questions that we believe can deal with most marginalized people, whether they be in the trailer park, whether they be ex-felons, whether they be immigrants, refugees, or lost. We know how to suffer and somehow not become totally destructive." Carter pauses. "These are the kinds of things CI can bring to communities."

Christiansburg Institute's second century is dedicated to more than just its past. It may hold some answers to questions of the present—and of the future. □

Kelsey Lequick, is a senior majoring in interdisciplinary studies.





Architecture grad combines flare for design with business leadership

BY DENISE YOUNG

For Mark Richardson (architecture '79), a zest for the creative and a passion for design aren't confined solely to the realm of architecture. As a leader in the remodeling industry, Richardson co-chairs Case Design/Remodeling Inc., a local remodeling company in the Washington, D.C., area, and Case Handyman Services, a business with more than 40 franchises nationwide. He works extensively with the Case Institute of Remodeling, an education- and training-based institute focused on the remodeling industry. In addition, Richardson is a regular columnist for two publications, author of a book on business success entitled *How Fit is Your Business?*, and a frequent guest speaker for organizations across North America.

Though Richardson built his first house at the age of 22 and has an extensive career in design and remodeling, these

days he tends to direct his attention mainly to the business aspect of the industry. "I've focused more on designing in a business sense than on designing architecture," he notes. "In architecture, people think of design as extremely creative. The same sort of creative thinking or creative circuits are used in developing a business, product, or service."

His accolades, both for business and architectural design, are many and diverse, ranging from design awards to awards for leadership in the industry, including a 2006 Ernst & Young Entrepreneur of the Year in Real Estate and Construction award for the Maryland Region and a 2000 Harold Hammerman Spirit of Education Award for excellence in remodeling-industry education and training. He was recently inducted into the National Association of Home Builders' Remodeling Hall of Fame, a significant milestone for someone in the prime of his career.

Among these honors is a Gold Award he received at the 31st Annual Awards Competition of the American Society of Business Publication Editors (ASBPE) in 2009. The ASBPE competition recognizes the outstanding work of business and professional magazine, newsletter, and Web editors and designers. Richardson pens a monthly column for *Remodeling* magazine that addresses industry-specific business issues, in addition to his writing for *Smart Business Ideas*.

The subject of Richardson's columns varies, but it inevitably involves business leadership. For example, a recent column focused on the use of analogies and metaphors in organizational communication. Others have focused on lessons in time management and the structuring of business meetings. "Because I'm living and breathing it every day, it's not about examining

the issue as an abstract. I'm talking about topics that are real time and relevant," he says.

In addition to Richardson's columns, his book is a detailed exploration of his knowledge of business design and leadership. In *How Fit is Your Business?* he draws parallels between physical fitness in terms of personal health and fitness in terms of business health. In writing the book, Richardson drew on his own observations about weight loss, exercise, and diets.

"In architecture, people think of design as extremely creative. The same sort of creative thinking or creative circuits are used in developing a business, product, or service."



Richardson works extensively with the Case Institute of Remodeling, an education- and training-based institute focused on the remodeling industry.

"I realized that if you followed a certain diet or exercise regimen, you could get fit. Many of us know what it means to be physically fit, but I wondered if business owners knew what it meant for a business to be fit." The book, which fulfills his lifelong passion to write one, contains a 10-point "checkup" for business health, followed by prescriptions to improve a company's fitness.

Writing and working for Case aren't the only ways that Richardson serves the remodeling industry. He also was recently appointed to serve as liaison between the Remodeling Futures Board for Harvard University's Joint Center for Housing Studies and the remodeling industry, serving as a bridge or conduit to the industry.

Though Richardson has served on the board—comprised of 40 industry leaders including people involved in manufacturing, distribution, and industry publications—for 15 years, he was recently appointed to a one-year role as a liaison between the industry and Harvard researchers who are studying it. He acts as a sounding board for the data they are researching and analyzing, providing his real-world experience to help them further understand the implications of their research by aligning their theoretical knowledge with his years of experience in the field.

For Richardson, the journey began with an inspirational high school teacher who taught architectural and mechanical design. When that teacher retired in Richardson's junior year, his replacement was a shop teacher who felt unprepared to teach architecture. Recognizing Richardson's passion and skill for the subject, the teacher asked him to student-teach the class, a task Richardson was eager to accept. These first steps into design and teaching paved the way, Richardson says, for his time at Tech.

"I think Virginia Tech gave me an incredibly strong foundation," he says. "It was about teaching me how to think." Richardson credits his advisor with teaching him to look at things from a different angle. That background, he says, has allowed him to translate his skill for architectural design into the design of business and leadership models.

Sharing this knowledge with others has become a large part of Richardson's professional life. In an average year, he estimates that he gives between 70 and 100 talks, speaking to remodeling-industry professionals as well as to small- and medium-size businesses outside the industry. His goal with each of his presentations is to leave the organization members looking at their business, product, or service in a slightly different way. For 2010, he is doing a 30-city tour with Pella Windows on the future of the remodeling industry, and he recently concluded a



Among Richardson's many honors is a Gold Award he received at the 31st Annual Awards Competition of the American Society of Business Publication Editors (ASBPE) in 2009.

fall 2009 lecture series sponsored by Suntrust entitled "How Fit is Your Business?"

Though he divides his time among all of his many endeavors, the largest portion of his time with Case is devoted to the institute, which he hopes to grow into an established center for quality education and training for remodeling. "My vision is that it would become the Harvard of the remodeling industry in terms of the uniqueness and quality of the knowledge in the institute," he says, adding that he spends about two-thirds of his time working on this project.

Richardson finds a reward with each new experience, whether designing, writing, teaching, or speaking, as each offers the potential for professional growth. "The reality is that the only way to get out of a passage is to get out of your comfort zone. Speaking and teaching help you grow." □

Conferences build leadership skills

BY LT. COL. BILL STRINGER

Of the many unique opportunities available to cadets during their time in the Virginia Tech Corps of Cadets, perhaps the most sought after is the chance to represent the university and its corps at leadership conferences hosted by federal service academies and other senior military colleges. These annual conferences offer selected cadets remarkable exposure to guest speakers, conference mentors, and proven leaders in virtually every sector of American life as well as the chance to interact with some of the best and brightest students and faculty members from colleges and universities around the nation. Invariably, cadets leave each conference with new friends, new perspectives, and memorable insights into the lifestyles of their peers at the host institutions.

Members of the commandant's staff select the cadets who attend these events based on proven leadership performance and grade-point average. Consideration is also given to ROTC affiliation and roles in the corps. Normally, selection is limited to sophomores and juniors, and no cadet can attend more than one conference. Upon returning, each cadet gives a brief presentation to the rest of the corps on the basic conference themes; lessons learned; and, perhaps most popularly, reflections on the trials and tribulations of cadets at the host school.

Every conference focuses on some aspect of leadership, the processes for developing leaders of character, and fundamental ethical issues confronting leaders in the military and in public and private sectors. The events include a mix of guest speaker presentations and small group breakout sessions guided by senior faculty or guest mentors. Most of them



Virginia Tech cadets, civilian students, and Lt. Col. Bill Stringer (right) at a recent leadership conference at the U.S. Naval Academy in Annapolis, Md.

end with a plenary session, where each seminar group summarizes its discussions and conclusions on the theme of the conference.

Cadets also have the opportunity to socialize and interact with students from their peer military institutions as well as institutions as diverse as small faith-based colleges, such as the College of the Ozarks, to major state schools, such as the University of Nebraska. At West Point conferences, Virginia Tech cadets live in barracks with their cadet hosts and take a Hudson River cruise; at Annapolis, they enjoy an incomparable seafood buffet at Buddy's Crab House; at the Air Force Academy, they can opt for a one-day ski trip.

The Virginia Tech Corps of Cadets also sponsors its own leadership conference for representatives of federal service academies and senior military colleges. Held annually in early February, the conference highlights issues that

run the gamut from minority recruiting to leadership training and from retention to alcohol abuse. The conference is the cornerstone of Military Weekend and culminates with the Senior Banquet and Military Ball.

The corps is committed to developing future leaders of character who are dedicated to service to country, commonwealth, and community. That development is a dynamic process wherein exposure to contrary thought and the aggressive exchange of viewpoints are critical leavening ingredients. For Virginia Tech's cadets, conferences that examine leadership and professional ethics are invaluable in understanding the challenges cadets will face after graduation and in meeting the people with whom they will shape solutions.

Lt. Col. Bill Stringer, USMC, is a deputy commandant of the Virginia Tech Corps of Cadets.

DONATIONS FUEL high-profile projects

BY ALBERT RABOTEAU

When recruiting the best students and faculty, it's important to make a good first impression.

Donors are helping the university to do just that by supporting projects that will improve those areas of campus all visitors will likely see. Three recent examples are a new **Visitor and Undergraduate Admissions Center, expected to open in 2011; an amphitheatre, which was completed last fall outside the Graduate Life Center; and a renovation to Carol M. Newman Library.**

The Visitor and Undergraduate Admissions Center

Currently, a first stop for most visitors is likely to be the small, vinyl-sided welcome center on Southgate Drive, often followed by the Undergraduate Admissions office on the second floor of Burruss Hall. But by May 2011, one stop will do.

Work is scheduled to begin in February 2010 on a new facility that will be more convenient and will make a stronger impression on visitors and guests. The two-story, 18,155-square-foot Visitor and Undergraduate Admissions Center will be constructed on land that was once part of the campus golf course but has not been in use since construction of the nearby Inn at Virginia Tech & Skelton Conference Center.

The new building will be constructed of Hokie Stone in the Collegiate Gothic style of many of Virginia Tech's best-

known buildings. Features will include a tower and a two-story, glass atrium with views of the towers of Burruss Hall and Lane Stadium.

The Virginia Tech Board of Visitors approved plans for the new center in 2006. "We have a world-class university, therefore we need a world-class visitor center," says Jim Severt, a member of the board who contributed \$100,000 toward the project.

Larry Hincker, associate vice president for University Relations, will oversee the installation of interactive displays containing information on the university's history, the life of its students, and Virginia Tech's impact on the commonwealth in an exhibit hall of the new building. "We want to create not only a functional area, where people go to get their parking passes and begin to understand how to get to whatever office they need to get to, but also to have a

very special Virginia Tech experience," Hincker says.

Visitors will approach the information desk in an atrium that will occupy several thousand square feet, but Undergraduate Admissions will occupy a larger portion of the building, Hincker says it's natural for that office to be present in a visitor center. "Many visitors coming to campus are prospective students or their families," he explains.

The Graduate Life Center Amphitheatre

One of the busiest areas of campus has already been transformed by another project funded by donors. In October, university officials celebrated the opening of the Graduate Life Center Amphitheatre near the College Avenue entrance to Virginia Tech.

The \$330,000 project features a small stage and fountain, both built of Hokie



Visitor and Undergraduate Admissions Center

Stone. Between them is a seating area that will eventually be shaded by elm trees, a vast improvement over what was there before — a below-ground brick fountain that had not been turned on for a decade. The amphitheatre lies in the shadows of the Graduate Life Center at Donaldson Brown (GLC), Squires Student Center, and Newman Library.

The Class of '59 contributed the main gift for the project, which also received money from the Hokie Parents Fund and the Class of '09.

At a ribbon cutting for the amphitheatre, T.O. Williams, Class of '59 reunion chair, said that he and his classmates also earmarked class-gift money to undergraduate education and the Virginia Tech Corps of Cadets, "but we wanted to do some sort of brick-and-mortar project, and we also wanted to do something to honor graduate students."

Vice President and Dean for Graduate Education Karen DePauw says the amphitheatre will help her school continue to build a unique academic and social community centered at the GLC. But she also expects the amphitheatre to be used by undergraduates and the wider community.

Many of Blacksburg's arts institutions are within a short walk of the amphitheatre. Portions of College Avenue and Draper Road near the GLC are sometimes closed for cultural events, such as the university's International Street Fair and Blacksburg's annual street festival, Steppin' Out.

In theory, the amphitheatre can be used during events like those, as well as Graduate School functions, and it's expected to be a popular gathering place on ordinary days as well. "I envision that I am going to look out my window and I'm going to be able to see people out here all the time," DePauw said on the day of the ribbon cutting.

Newman Library improvements

While officials were cutting the ribbon to celebrate completion of the GLC amphitheatre, construction was going on a stone's throw away at the university's main library. What used to be the reference-desk area is being turned into a café that will seat 90 to 100 people. The project is expected to be completed this spring.

"This is an exciting opportunity to provide students and faculty with a

comfortable place to meet, study, and collaborate," says Eileen Hitchingham, dean of University Libraries.

Tom and Ann Clark of Las Cruces, N.M., parents of Erin Clark Henry (biochemistry '01) and Lisa Ann Clark (communication '04), made a generous donation that helped get the renovation project off the ground, and money from several class gifts and the Parents Fund will also help, Hitchingham says.

Tom Clark says that he and his wife wanted to support a "central academic institution" at the university. He believes that the café will help the library be even more appealing to students who have grown up in an era where bookstores typically have cafés and cafés routinely offer Internet access.

"If you want them to come to the library instead of sitting in their rooms on their computers, then there ought to be an environment at the library that draws them in," he says.

The visitor center, the amphitheatre, and the library renovation are just a few examples of how donations can, literally, build a better university. Visit www.campaign.vt.edu/building for more examples.

Albert Raboteau is a writer for *University Development*.

Virginia Tech employees are inventing the future

BY ALBERT RABOTEAU

JOHN MCCORMICK

Ray Myers is a professor emeritus of statistics. Carol Beasley is a retired member of the U.S. Navy who works for the Virginia Tech Corps of Cadets. Like many current and former employees, they have made Virginia Tech a better place through hard work and philanthropy. All together, employees like them have donated more than \$45 million since The Campaign for Virginia Tech: Invent the Future began in 2003.

Beasley is an administrative assistant who works on the corps' scholarship ceremonies every year. But 2007 was different. One of the scholarships honored Douglas F. Beasley, her father, who had died the year before.

"He thought a lot of the corps and everything it stands for—and that I worked there—so I wanted to do something to honor him," Beasley says of her father, who had served in the Marines.

Her gift provided a scholarship to Jeffrey Enniss, who graduated with a civil engineering degree in May 2009. Shortly afterward, he entered the Basic School in Quantico, Va., a first step for newly commissioned officers.

Beasley, who retired from the Navy as

a senior enlisted member, says she didn't know much about the corps or Virginia Tech when she started working here but has been inspired by what she's seen.

"It gives you hope for the future, that our future is going to be okay, because we have great leaders coming out of here

"It gives you hope for the future, that our future is going to be okay, because we have great leaders coming out of here that are going to make a huge difference."

that are going to make a huge difference." Myers (chemical engineering '59, M.S. statistics '61, Ph.D. '63) grew up in Charleston, W.Va., where the chemicals industry was prominent. It made sense for him to get a degree in chemical engineering from Virginia Tech. But he graduated during tough economic times.

Myers was wrestling with the decision to attend graduate school when a chance meeting with Boyd Harshbarger changed his life.

"He liked chemical engineers," Myers recalls of the founder of Virginia Tech's statistics department. "He'd had some in his class. He said they had a fellowship

in statistics, and my reaction was, 'What is statistics?'"

Harshbarger made space for Myers in his graduate program even though the young man had never taken statistics. His belief in Myers proved justified.

Myers became a renowned expert in response surface methodology, an area of statistics that is widely used to develop new products, including pharmaceuticals. He has written six books that, combined, have gone through 16 editions and been translated into several languages.

After retiring in 1995, Myers returned to teach from 1997 until 2001 and again in 2006 and 2007. He has been the research advisor to more than 40 Ph.D. students but says he still feels compelled to do more for students entering his field. With that in mind, he recently endowed the Raymond H. Myers Fellowship Award to support graduate students in the area of statistics he helped pioneer. Liaosa Xu is the first recipient.

"By giving back, I have a chance to help give current students a chance like I had," Myers says.

"I think everybody should give back, but I felt like I owed a lot."

Albert Raboteau is a writer for University Development.

Alumni Association

Alumni Association News

Commentary

Virginia Tech alumni know when and how to help other Hokies in tough economic times, primarily with job networking and extending opportunities to interview for possible openings. The Hokie Nation is especially good at networking. *VirginiaTechforlife* means exactly that—alumni helping recent graduates and fellow alumni throughout their lives.



A number of university resources can be helpful in job searches and strengthening credentials. Several are highlighted here for the

benefit of alumni who are currently in or are considering job searches. We also encourage alumni to list jobs with our Hokie Nation Network and Career Services' Hokies4Hire.

The new online Hokie Nation Network, designed and password protected exclusively for our alumni, students, and members of the faculty and staff, offers job listings and résumé posting. It is completely free and open to alumni, only requiring a quick registration. Alumni members may post job opportunities at no charge, as well as their résumés. Other employers may post multiple positions for a nominal fee. All are displayed for HNN site members. This is an increasingly valuable resource as more alumni list jobs that they are eager for Hokies to learn about. Visit www.alumni.vt.edu/hnn.

Consult the university's Career Services website at www.career.vt.edu and choose the Alumni link in the upper left. It includes job listings under "Hokies4Hire," plus other free online resources, such as Going Global (with U.S. and international jobs), and various Internet resources for finding jobs. "Career Search" contains contact information for more than 3 million companies, agencies, firms, and associations. Valuable résumé writing and interview advice is available on the Career Services website as well.

Strengthen your academic credentials by taking advantage of the university's Distance Learning online coursework. Some professional certificate programs are available after taking a few courses. Also, several complete graduate programs are taught online. Last year, 800 different university courses were taught online. More than 7,000 students enrolled, representing a 21 percent increase over the previous year. This is an especially valuable resource for working or place-bound alumni. More information about current courses is available at www.dlss.vt.edu.

Networking at alumni chapter events provides yet another

JIM STROUP



opportunity to make valuable professional contacts. More than 100 chapters and clubs across the country hold events for alumni. All alumni receive mail or e-mail invitations to planned events in areas where chapters have been established. More and more alumni are taking advantage of these gatherings to meet and talk with other Hokies face to face, making social and professional contacts.

Hokies are helping fellow alumni learn about job opportunities in a variety of ways. We encourage increased communication during such challenging economic times. And we encourage you to visit sites for the Hokie Nation Network, Career Services, and Distance Learning to learn more about various resources. Virginia Tech is "for life" and can be the key to better career opportunities in your life journey.

Tom Tillar '69

Tom Tillar
Vice President for Alumni Relations



Kevin LeClaire, Alumni Association president

The current international president of the Virginia Tech Alumni Association, Kevin LeClaire, is the first member of a '90s decade class to hold the highest office in the Alumni Association. Recently he responded to several questions about the association in an interview for *Virginia Tech Magazine*. LeClaire is a 1995 graduate of both industrial and systems engineering and economics and later earned his M.B.A. from Harvard University. He currently is

managing director of ISDR Consulting in Reston, Va., where he resides with his wife, Jessica Oi.

Q What do you feel are the hallmarks that make Tech's alumni programs stand apart from programs at other universities?

Unlike most of its peers, the Virginia Tech Alumni Association does not charge membership dues or solicit funds through an annual giving program. We seek to be as inclusive as possible and hence do not charge dues—every Virginia Tech alumnus or alumna automatically becomes a member of the Virginia Tech Alumni Association upon graduation and becomes a beneficiary of our diverse and comprehensive alumni programs and services. Additionally, our alumni association is not in the business of soliciting funds—the university operates a separate annual fund, through which some alumni choose to designate support for alumni programs. No state funds are used for Tech's alumni programs—only revenue generated from programs and services in addition to partial Virginia Tech Foundation support.

Another distinction is that our Alumni Association is one of the few in the country that emphasizes constituency affiliations, such as academic college affiliation. We have a robust program of college and departmental programming for our alumni, as well as designated homecomings for different colleges on fall weekends. Each college has an Alumni Relations staff member. Also, there is an emphasis on programs for other groups, including graduate alumni, multicultural affiliations, and alumni of the corps of cadets. Our association has been recognized as a model nationally for its “no dues” policy, as well as for its varied and diverse constituency programs.

Q How are the members of the Alumni Association Board of Directors engaged in influencing the programs and services of the Alumni Association?

The Alumni Association Board of Directors is composed of alumni who bring diverse experience and insight from leadership roles across many different professions, including the government, military, and industry, as well as investment, legal and consulting firms, and nonprofit organizations. Tom Tillar and his very capable staff are responsible for the planning and day-to-day operations that make Virginia Tech's alumni programs and services possible. Although the board has oversight and governance responsibilities, our main role is to help guide the long-term direction the Alumni Association takes. We provide advice and best practices from industry to the association staff to help them meet their goals and overcome challenges, and otherwise help as called upon. We also attend various programs on and off campus and take advantage of many of the services provided by the association. In doing so, we can serve as a focus group to evaluate and make suggestions for changes and possible improvements or additions. The staff is always receptive to our input.

Q What is your long-term vision for how the Alumni Association will serve and benefit the university?

The Alumni Association is the principal means to keep Hokies connected to their alma mater, their fellow alumni, and the community. The Alumni Association provides crucial services to accomplish this, including maintaining alumni records (keep yours up to date at www.alumni.vt.edu); providing tools to keep Hokies affiliated with Tech, such as lifetime “@vt.edu” e-mail addresses and the Hokie Nation Network online professional and social networking tool; supporting the alumni chapter network, so they can connect Hokies with each other and provide local networking and service opportunities across the globe; and engaging in legislative advocacy in Virginia to garner as much state support for the university as possible, especially in challenging economic times.

My long-term vision for the Alumni Association is more of the same, only better. I would like to see the association provide an even greater multiplier effect to keep the Hokie Nation connected. This could be accomplished by growth in new chapter formation domestically and especially abroad. I envision supporting the growth of an international presence and a support structure that includes a virtual roundtable of leaders from

2009-10 Alumni Association board officers

Kevin W. LeClaire '95 – International President
 Curry A. Roberts '80 – International President-elect
 Lance L. Smith '68 – Vice President
 Thomas C. Tillar Jr. '69 – Secretary-Treasurer
 David E. Lowe '63 – Past President

DIRECTORS

William A. Aden '67, '72	Gregory D. Merritt '93
Ryan M. Beach '97	Lisa Glasscock Miller '87
Mary Jones Berry '62*	Nicholas J. Moga '76
Daniel W. Bird Jr. '60*	Jean Skelton Montague '69
Jeanne C. DaDamio '75, '76	Thomas W. Moss Jr. '50*
Kendley J. Davenport '84	Jay S. Poole '78
Douglas R. Fahl '65	Jeanette I. Poole '64
Elizabeth A. Flanagan	A. Carole Pratt '72
Harry N. Gustin II '43*	Glenn P. Reynolds '76
Todd F. Hearp '89	Wayne H. Robinson '80
Dwight A. Holland '86, '91, '01	J. Thomas Ryan '68
William B. Holtzman '59*	A. Melissa Smarr '00
Gene A. James '53*	Charles W. Steger '69
William C. Latham '55*	Philip S. Thompson '77
Mark S. Lawrence '80	G.T. Ward '49, '52*
R. Easton Loving '89, '91	John C. Watkins '69
Aaron McClung '00	Matthew M. Winston Jr. '90
Pamela A. McConnell '72	
Kylene Barker McNeill '78	*Lifetime Honorary Member

Interview with LeClaire con't.

international chapters that can share best practices and lessons learned that are unique to their situations.

I envision a Hokie Nation Network that grows from the thousands of members today to many tens of thousands of members in the future. The network effects of such growth can help meet the career assistance, social networking, and communications needs of many more Hokies than those who have time to visit our beautiful campus or regularly engage with their local chapters. In particular, I would like to see many more alumni give back to their alma mater and opt to become career mentors to help our students and fellow alumni. □

To read the full interview with Kevin LeClaire, visit www.vtmagazine.vt.edu.

Alumni Association board ballot

The Alumni Association Board of Directors nominating committee has proposed the following nominees for election to three-year terms from 2010 through 2013. Please vote for up to 12 nominees and return the ballot by April 15, 2010. Results will be announced at the Alumni Association board meeting in late April.

- Lisa Carter Ellison '86**, Inverness, Ill., finance
- A. Jerome Fowlkes '88**, South Riding, Va., finance
- Kathleen Kyger Frazier '04**, Midlothian, Va., political science and agricultural and applied economics
- Hoda Kotb '86**, New York, N.Y., communication
- W. Park Lemmond '54**, Petersburg, Va., business administration
- R. Easton Loving '89, '91**, Fork Union, Va., forestry
- Aaron McClung '00**, Midlothian, Va., political science
- Nicholas J. Moga '76**, Covington, Va., aerospace and ocean engineering
- Brian C. Montgomery '03**, Princeton, N.J., industrial and systems engineering
- James P. O'Connell '97**, Downingtown, Pa., biochemistry
- Lance L. Smith '68**, Pinehurst, N.C., business administration
- Matthew M. Winston Jr. '90**, Athens, Ga., marketing

Write-in nomination _____

Signature _____

Return to: Virginia Tech Alumni Association
 Holtzman Alumni Center (0102)
 Blacksburg, VA 24061

A gem of a tradition:

Celebrating 100 years of the Virginia Tech ring



The Class of 2011 ring collection honors Janet and Charles Steger (above).

In the fall of 2009, the Class of 2011 celebrated the 100th anniversary of the Virginia Tech ring tradition by premiering the 100th collection of rings in the university's history. Since 1911, each Virginia Tech class has designed a ring distinctive and unique to the class. Today, Virginia Tech is one of only a few colleges and universities in the nation that designs a new and distinctive ring collection each year.

The redesign renews the tradition each year for a new group of Hokies. Alumni are proud of the elements that appear on each ring as they reflect on their time and experiences at Virginia Tech and preserve traditions.

Though unique each year, the design always utilizes treasured symbols of the university. The earliest rings included the American eagle, crossed sabers, cannon, and stars that represent the military



heritage of the university's early years. As the agricultural and mechanical college evolved into a major university, the ring designs changed to reflect this transition. Additions to the designs have included campus landmarks, such as Burruss Hall (1940), the War Memorial Pylons (1958), HokieBird (1992), Torgersen Hall bridge (2002), and the April 16 memorial (2010). As a tribute to the ring's 100th anniversary, the Class of 2011 was the first class to offer genuine Hokie Stone as a gem choice for the traditional ring.

Since 1991, each class ring collection honors a special person or couple selected by the class. The ring collection is named for the honoree(s), who are recognized at both Ring Premiere and Ring Dance, becoming part of a select few to have such a legacy. For this special 100th anniversary, the Class of 2011 honored Virginia Tech President Charles W. Steger '69 and his wife, Janet Steger '70. Premiere was held Oct. 13, 2009, in a packed Burruss Hall Auditorium.

The role of class sponsors has also been an important tradition with the ring program. At Premiere, the Class of 2011 recognized Jack Davis '74, dean of the College of Architecture and Urban Studies, and Linda Davis '73, nutrition educator at Schiffert Health Center, as their class sponsors.

For more information on Virginia Tech rings and to view all collections since 1911, visit www.alumni.vt.edu/classrings. For those wishing to order a



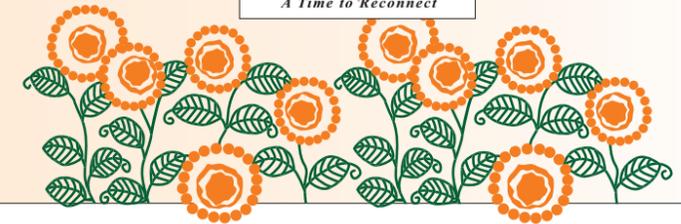
ring or to have one repaired or resized, write the Virginia Tech Alumni Association at the Holtzman Alumni Center, Blacksburg, VA 24061, or e-mail fleets@vt.edu. The Alumni Association staff will identify the ring year manufacturer and write the manufacturer on behalf of the alumnus or alumna to confirm authorization to purchase a Virginia Tech ring.

Alumni Association Events

events

SPRING 2010

- February
13-14 ▶ Valentine's Day Themed Escape to France at Virginia Tech
- March
12-13 ▶ Civil War Weekend
18-21 ▶ Black Alumni Reunion
- May
19-21 ▶ Old Guard Reunion
- July
16-17 ▶ A Day in the Life of College Admissions
24-25 ▶ Summer Around the Drillfield, 20th anniversary



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*The New River Valley is the region around Virginia Tech's Blacksburg, VA campus.

What alumni advocacy means to Virginia Tech

BY LAURA FORNASH AND RALPH BYERS



VIRGINIA TECH ALUMNI ASSOCIATION

Hokies for Higher Education Alumni Legislative Advocacy

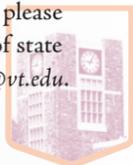
Advocacy efforts were the key to the founding of the university we know today. The stakes in 1866 were high as Virginians urged members of the General Assembly to create a new separate agricultural and mechanical college to receive resources designated by the 1862 Morrill Land-Grant Act. At the time, the *Richmond Dispatch* dubbed the fight for the money the “War of the Colleges.” After a six-year legislative battle, the General Assembly passed legislation in March 1872 allocating the land-grant funds to two colleges, one-third to the Hampton Normal and Industrial Institute and two-thirds to the Preston and Olin Institute, which reorganized to create the new Virginia Agricultural and Mechanical College.

Today’s advocacy efforts remain focused on elected officials, primarily members of the General Assembly and the governor, to provide sufficient state funds for higher education. In 1997, the Alumni Association, in coordination with the president’s office, began organizing Hokies for Higher Education to advocate for Virginia Tech. A year later, Hokie Day in the General Assembly was initiated, with alumni from across the commonwealth traveling to Richmond during the legislative session for briefings on the university’s top priorities before meeting with legislators in the General Assembly offices. Now, approximately 100 alumni and students participate in this annual event.

As Virginia looks to spur an economic rebound, it must strengthen and grow the commonwealth’s workforce to expand existing opportunities for busi-

nesses and create new jobs. Investing in higher education not only allows greater access to college, but also contributes to the state’s budget, as shown by a study released at the Higher Education Summit hosted by the Virginia Business Higher Education Council and the Grow by Degrees campaign (mentioned in the president’s message in the fall 2009 issue). According to one source, spending on public higher education supports 144,000 jobs and generates almost \$24 billion in economic activity—nearly 6.2 percent of Virginia’s economy.

The 2010 Hokie Day is set for Feb. 3. E-mail govrel@vt.edu for more information or to sign up. Betty Lee represents the Alumni Association in Richmond and can be reached at bettylee@vt.edu. If you are interested in getting involved, please contact Laura Fornash, director of state government relations, at fornash@vt.edu.



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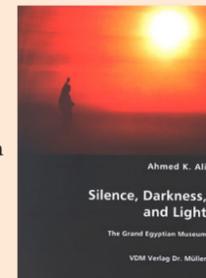
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Off the Shelf

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. For more information about Book Notes policies, please go to www.vtmagazine.vt.edu/bookreview.html.

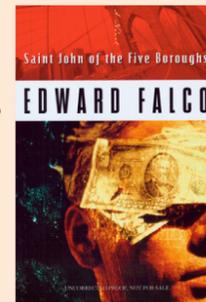
Books by faculty

Silence, Darkness, and Light by **Ahmed K. Ali**, an adjunct professor of architecture in the School of Architecture + Design and program leader for study abroad in Egypt for the College of Architecture and Urban Studies, documents his proposal for the architectural design of the 1-million-square-foot Grand Egyptian Museum in Giza, Egypt.



The publisher is VDM Verlag (Dudweiler Landstr. 99, 66123 Saarbrücken, Germany); www.vdm-publishing.com.

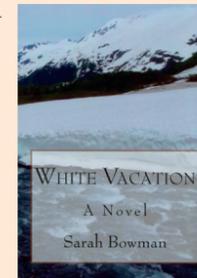
In *Saint John of the Five Boroughs*, **Edward Falco**, director of the creative writing program at Virginia Tech, weaves the tale of 22-year-old Avery Walker, who leaves college to follow 37-year-old performance artist Grant Danko to Brooklyn, where the tale then explores the effects of violence on the human psyche and the possibility for redemption.



The publisher is Unbridled Books (29834 N. Cave Creek Rd., Ste. 118-139, Cave Creek, AZ 85331); www.unbridled-books.com.

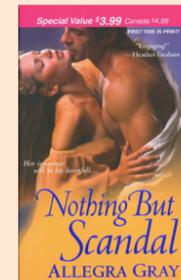
Books by alumni

White Vacation by **Sarah Bowman** (English '04) takes a glimpse into the life of Katie Redding, a woman in her late 20s who, while vacationing at a ski resort, falls head over heels for Noah Baker, a man she's just met, and is faced with the choice of following her dreams or her heart.



The book is self-published through CreateSpace (100 Enterprise Way, Ste. A200, Scotts Valley, CA 95066); www.createspace.com.

In *Nothing but Scandal*, by **Allegra Gray** (M.A. English '03), Elizabeth Medford seeks to avoid marriage to the vile, cruel Harold Wetherby, but her only hope is to secure the assistance of the reluctant Alex Bainbridge, Duke of Beaufort, in plotting her escape.



The publisher is Zebra Books, an imprint of Kensington Publishing Corp. (119 W. 40th St., New York, NY 10018); www.kensingtonbooks.com.

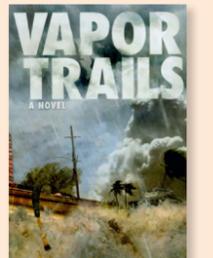
In the novel *Gray Baby*, by **Scott Loring Sanders** (English '94), 16-year-old Clifton relieves his haunting past after he witnesses the kidnapping of a young girl, an event that causes him to seek the guidance of a man named Swamper—and to uncover the truth about his family and himself.



The publisher is Houghton-Mifflin

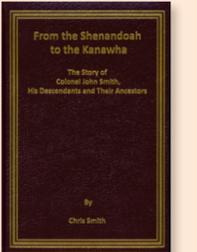
Harcourt (222 Berkeley St., Boston, MA 02116); www.hmco.com.

In the novel *Vapor Trails*, by **R.P. Siegel** (mechanical engineering '81, M.S. '82) and Roger Saillant, a dark conspiracy haunts a senior executive who attempts to escape the burden of his past, regain self-respect, and open himself up to the potential of a new love.



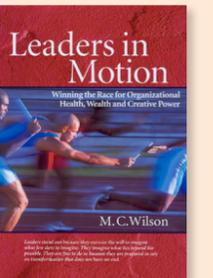
The book is self-published; www.vaportrailsthenovel.com.

From the Shenandoah to the Kanawha: the Story of Col. John Smith, His Descendants, and Their Ancestors, by **Chris Smith** (chemical engineering '61), chronicles the story of the migration of the author's ancestors to Virginia in the 18th century, including their struggles during both the French and Indian and the American Revolution wars.



The book is self-published through Chris Smith Publishing (P.O. Box 4432, Charleston, WV 25364); www.chris-smithpublishing.com.

Leaders in Motion, by **M.C. Wilson** (M.S. psychology '89, Ph.D. psychology '93), teaches leaders how to empower the leadership potential of everyone who contributes to collective goals.



The book is self-published through Transformation Systems Inc. (2011 Crystal Dr., Ste. 400, Arlington, Va. 22202); www.transformationssystem.com.

Alumni, we want to hear what you've been doing. Although we cannot print stories or obituaries, we can post on-line 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.



'60s

'63
E. Barry Rice (ACCT) has retired from Loyola College after 27 years as an accounting professor (2717 Quarry Heights Way, Baltimore, MD 21209).

'68
Victor E. Sower (CHEM) has retired as Distinguished Professor Emeritus of Management from Sam Houston State University (601 Elkins Lake, Huntsville, TX 77340).

'68
Whitwell C. Wirsing (PHIL) authored a Spanish-English phrase dictionary entitled *The Ultimate Spanish Phrase Finder/Frases Equivalentes* (107 B St., Apt. 206, Salt Lake City, UT 84103).

'70s

'71
Ronald W. Daniel (ARCH) has been conferred the title associate provost and professor emeritus by the Virginia Tech Board of Visitors (P.O. Box 503, Blacksburg, VA 24063).

'72
Patrick M. Phipps (PLPP) was elected into the American Phytopathological Society College of Fellows (P.O. Box 7041, Suffolk, VA 23437).

'73
Ronald L. McAllister (AGE) is president of the American Society of Agricultural and Biological Engineers (1175 Ranck Rd., New Holland, PA 17557).

'78
George Nolen (MKTG) was re-appointed to the Virginia Tech Board of Visitors by Virginia Governor Tim Kaine (6302 Pebblebrook Trace, Centreville, VA 20120).
Andrew O. Selsky (COMM) is the Africa editor for the Associated Press (AP, P.O. Box 880, Johannesburg, 2006, South Africa).
Nancy E. Squires (SOC) is founder of The Squires Group (2720 Hambleton Rd., Riva, MD 21140).

'80s

'81
Teresa L. Conaway (EDSP) heads Instruction and Research Services at the University of La Verne College of Law (320 E. D St., Ontario, CA 91764).

'82
Warren P. Adams (IEOR) received the Frederick W. Lanchester Prize from the Institute for Operations Research and the Management Sciences (110 Knollwood Dr., Clemson, SC 29631).
William T. Moore (BFIN) is vice president for finance and planning and CFO for the University of South Carolina (14 Somerton Pl., Columbia, SC 29209).

'83
Michael A. Lane (ME) earned his juris doctor from the University of New Mexico and practices law in New Mexico (351 Andanada St., Los Alamos, NM 87544). '84
Gerard M. Burton (CS) is senior director of information technology strategic planning and analysis for Tyco Electronics Corporation (160 Fieldstone Dr., Carlisle, PA 17015).

'85
Christopher S. Mardis (MKTG) has assumed command of the 374th Maintenance Group at Yokota Air Base, Japan (PSC 78 Box 75, APO, AP 96326).
David L. Tondreau Jr. (IEOR) is chief technology officer for IQ Solutions (8519 Quaint Ln., Vienna, VA 22182).

'86
Dixie Watts Reaves (AGEC) received the 2009 Diversity Enhancement Award from Virginia Tech's College of Agriculture and Life Sciences (Dept. of Ag Econ (0401), Virginia Tech, Blacksburg, VA 24061).

'87
Timothy E. Long (CHEM) was named as an American Chemical Society Fellow (607 Gigi Dr., Blacksburg, VA 24060).
C. Randolph Wimbish III (PSCI) was listed in the publication *Best Lawyers in America* (2010) (12120 Glastonbury Pl., Richmond, VA 23233).

'88
Katherine L. Cason (HNF) received a Millennium Award for Lucy's Tasty Treasures, a health and fitness program she created for elementary school-age children (4045 Brookfield Dr., Seneca, SC 29672).

'83
James R. McKenna (AGRN) received the 2009 North American Colleges and Teachers of Agriculture Distinguished Educator Award (5000 Whitethorne Rd., Blacksburg, VA 24060).
Lawrence D. Zavodney (EM) is senior professor of mechanical engineering at Cedarville University (168 Creamer Dr., Cedarville, OH 45314).

'90s

'90
James P. McGrath III (HIST) is assistant reactor officer for the U.S.S. Harry S. Truman (767 Sheraton Dr., Virginia Beach, VA 23452).

'92
Daniel H. Cole (BAD) is vice president and portfolio manager for MFC Global Investment Management (790 Boylston St., Apt. 11D, Boston, MA 02199-7910).
Michael W. Leonhirth (ACCT) is director of information security for Freddie Mac (8000 Jones Branch Dr., McLean, VA 22102).

'93
Christopher R. Coudon (ME) is the recipient of the Ernst & Young Entrepreneur of the Year 2009 award in the development and construction services category (Plano-Coudon LLC, 1130 S. Light St., Baltimore, MD 21230).
Kimberly J. McGovern-Shanahan (FIN) is the office managing director of Korn/Ferry International (18459 Rim Rock Cir., Leesburg, VA 20176).

'98
Brett S. Plano (CE) is the recipient of the Ernst & Young Entrepreneur of the Year 2009 award in the development and construction service category (5231 Grovemont Dr., Elkridge, MD 21075).

'94
Roy L. Delph III (ARCH) is a partner with the DePasquale Gentilhomme Group (1329 Knight Island Rd., Earleville, MD 21919).

'95
Lara L. Jones (HNF) is an assistant professor of psychology at Wayne State

University (Apt. 101, 29011 Lancaster Dr., Southfield, MI 48034).

'96
David B. Calhoun (EDVT) is associate director of community viability for Virginia Cooperative Extension (405 Hemlock Dr., S.E., Blacksburg, VA 24060).
Todd W. Mills (PSCI) was selected as the Hokie Hero for the Virginia Tech vs. Alabama football game (917 Ferryman Quay, Chesapeake, VA 23323).

'97
Richard B. Dull (GBUA) was named a Fulbright Scholar for his academic achievement and demonstrated leadership in his field (1562 N. Woodbury Rd., Seneca, SC 29672).
Bryan M. Lawlor (PSYC) is captain on the Embraer 145 regional jet for Continental Express (11013 Seward Way, Mechanicsville, VA 23116).
Amanda L. Serra (ART) completed her M.B.A. at Clemson University (3 Buena Vista Ave., Greenville, SC 29607).

'98
Katherine Bezold Bourdon (MKTG) received her juris doctor from Catholic University, Columbus School of Law (Apt. 1024, 1200 First St., Alexandria, VA 22314).
David F. McBagonluri-Nuuri (EM) was a finalist 2009 NASA Astronaut Candidate Corps (29 Shelley Cir., East Windsor, NJ 08520).

'00s

'00
Nicholas J. Watson (HIST) is director of equipment operations for the Illinois

State University Athletic Department (3 Stortz Dr., E7, Bloomington, IL 61701).

'01
Jeffrey S. Lewis (BIOL) is chief operating officer at DaProSystems Inc. (6116 Gaugin Cir., Roanoke, VA 24018).

'02
Jina N. Gaines (COMM) is the public relations coordinator and senior writer in the office of marketing and communications for Eastern Virginia Medical School (322 Rutherglen Muse, Unit 201, Virginia Beach, VA 23452).

'03
Stacy E. Spadafora (ECAS) earned her master's of science in national resource strategy from the Industrial College of the Armed Forces (Apt. 806, 1000 New Jersey Ave., S.E., Washington, D.C. 20003).

'03
Jeremy C. Johnson (PSYC) earned his master's of education in counselor education from the College of William and Mary (22145 Johnson Ln., Carrollton, VA 23314).

'06
David A. Keene (GEOG) was selected as a Hokie Hero for the Virginia Tech vs. Nebraska football game (209 Pounding Mill Branch Rd., Pounding Mill, VA 24637).
Amanda K. Komar (EPP) was selected as a Roy H. Park Fellow at the University of North Carolina at Chapel Hill's School of Journalism and Mass Communication (6142 Poburn Landing Ct., Burke, VA 22015).

Wedding News

'88 **Gregory T. Wolford** and Stephanie Renee Odum, 6/20/09 (P.O. Box 21337, Roanoke, VA 24018).

'93 **Catherine Guy Batchelor** and Daniel Alan Batchelor, 6/13/09 (Apt. 202, 184 Lake Club Ct., Charlottesville, VA 22902).

'97 **Jessica Shisler Lee** and John E. Lee, 7/18/09 (9 Normandy Ct., N.E., Atlanta, GA 303242934).

'01 **Paula David Monte** and David Monte, 9/27/08 (32 Bridgewater Rd., New Milford, CT 06776).

'03 **Kyle Charlesworth** and

Tanya Myers, 6/12/09 (Apt. 207, 110 E. Foster Ave., State College, PA 16801).

'03 **Molly School de Lima-Campos** and Bruno Mattioli de Lima-Campos, 5/16/09 (Apt. 1209, 2230 George C. Marshall Dr., Falls Church, VA 22043).

'03 **Monica Tiburzi Fulker-son** and Michael Fulker-son, 8/9/08 (12106 Bottlebrush Pl., Charlotte, NC 28277).

'04 **Suzanne M. Cada** and Jack Dennis, 7/11/09 (1600 Edgewood Ave., Knoxville, TN 37917).

'05 **Erin L. Robertson** and Reed Patrick Neuman, 6/20/09 (Apt. 422, 12128 Polo Dr., Fairfax, VA 22033).

'05 **Brian C. Wells** and '06 **Amy K. Ducut**, 9/27/08 (7142 McCauley Ln., Mechanicsville, VA 23111).

'06 **Laura Williams Dillon** and '06 **Stephen Dillon**, 8/15/09 (424 E. Fourth St., Winston-Salem, NC 27101).

'06 **Laura Crouse Luksik** and Brian C. Luksik, 8/1/09 (1700 Burnt Mill Rd., Rocky Mount, NC 27804).

'07 **Dory Tucker Doyle** and '07 **Timothy J. Doyle**, 4/4/09 (Apt. 222, 11400 Rosebud Bend Ln., Glen Allen, VA 23059).

'07 **Megan Ott Garrison** and Cory L. Garrison, 5/23/09 (Apt. 103, 13943 Rockland Village Dr., Chantilly, VA 20151).

Birth News

'88 **Amy Wiley Mulholland**, a daughter, 1/29/09 (506 West Drive Cir., Richmond, VA 23229).

'92 **Terry H. Hubbard**, a daughter, 1/3/09 (2330 12 O'clock Knob Rd., Salem, VA 24153).

'93 **Eric D. App**, a son and a daughter, 1/7/09 (11273 Old Scotland Rd., Glen Allen, VA 23059).

'93 **Jonathan H. Mangels**, a daughter, 8/12/09 (600 Briar Patch Terr., Waxhaw, NC 28173).

'93 **Amanda Sweinhart Testerman** and '94 **Joshua O. Testerman**, a daughter, 5/15/09 (763 Sussex Ct., Sykesville, MD 21784).

'95 **Carla Moravitz Martin** and '96 **Jason W. Martin**, a daughter, 7/21/09 (2171 Whispering Springs Rd., Harrisonburg, VA 22801).

'96 **Aaron J. Drazin**, a daughter, 4/16/09 (6902 Echo Bluff Dr., Dallas, TX 75248).

'96 **Rachel Rhoads Nestor**,

Big rewards for small-town coach

Colonial Beach High School's state basketball championship in March 2009 wasn't exactly a replay of "Hoosiers," but it was a new experience for the tiny Potomac River community of Colonial Beach, Va., and the school, which, at 185 students, is the fifth smallest in the commonwealth.

For Steve Swope (physical education '78), the seesaw 77-75 win was the culmination of a 30-year high school coaching career and validation of a program he started in the early 1980s. "If you persevere, something good can happen," Swope says.

The championship was especially satisfying for Swope because one of the players was his youngest son, Kevin. "I have three sons, and I got to coach all of them," Swope says.

Although this was the first state championship for one of Swope's teams, he's no stranger to collecting trophies. His basketball teams have won more than 500 games over the years, and his baseball teams have notched 460 victories.

The genesis of Swope's successful basketball program came in the early 1980s when he started a winter youth league. Maybe not a particularly novel idea, but this league traditionally includes just about every kid in town, from the player who can barely dribble to the varsity star. Last year's Group A state player, T.T. Carey, started in the league when he was five. "We grow our own," Swope says.

Swope is a Colonial Beach native who came to Virginia Tech because it was a good school and because he was taken with it when he visited. After graduation he returned home to teach elementary physical education, but he remains a Hokie at heart. He attends all Virginia Tech home football games and some away games, and two of his sons attended Tech. "Once a Hokie, always a Hokie," he says.

Following the state championship, Colonial Beach celebrated in true small-town style. A huge caravan returned from Richmond to a police escort and people cheering in the streets. "I bet you we celebrated better than any other school in the state," Swope says. "I was happy to see the town enjoy something like that."



Steve Swope (right) with his three sons: Joey, Tyler, and Kevin.

a daughter, 2/25/09 (3319 W. San Pedro St., Tampa, FL 33629).

'97 **Steven M. Glissman**, a daughter, 5/1/09 (10202 Swinging Bridge Dr., Richmond, VA 23233).

'97 **Scarlett Simmons Truong**, a son, 7/8/09 (416 Manns Harbour Dr., Apollo Beach, FL 33572).

'98 **Katherine Bezold Bourdon**, a son, 7/6/09 (Apt. 1024, 1200 First St., Alexandria, VA 22314).

'98 **Jill Zizzo Colangelo**, a daughter, 3/14/09 (12517 Rickwood Ct., Bristow, VA 20136).

'98 **Robert B. Martin** and '04 **Lisa Zweibel Martin**, a daughter, 7/14/09 (Apt. 3,

1632 Legacy Pkwy., E., St. Paul, MN 55109).

'98 **Kelly Farrar Pickeral**, a son, 11/4/08 (17509 Tedler Cir., Round Hill, VA 20141).

'99 **Robert E. Emard**, a daughter, 7/15/09 (422 N. Armistead St., Unit 302, Alexandria, VA 22312).

'99 **William T. Hudson** and

Finding a balance

When Tanya Moore Cummings (English '94) decided after her first child was born that she could not strike the right balance between motherhood and working at a large corporation, she quit her job. But she never quit dreaming that she would eventually balance a successful career and a fulfilling family life.

"The day I quit corporate America I started writing my business plan," Cummings says. "I just needed to work a lot less, and I couldn't figure out how to do that."

A few years later, in September 2007, Cummings partnered with former business associate Whitney Forstner in Richmond, Va., to found Momentum Resources, a company that matches professionals who want to work part-time or flexible hours with companies that want the same thing. "We match really smart people with really smart jobs," Cummings says.

While many of the firm's clients are mothers, some are men. Most have 10 to 15 years of work experience and are on the fast track but have decided that they want to work 10 hours less. The companies reap benefits because "they're finding talent they wouldn't otherwise find or be able to afford," Cummings says.

Cummings' path to this point wasn't traditional. From a family of U.Va. fans, she attended Virginia Tech to "do something different." She graduated early—a move she says she regrets—and then "accidentally" landed a teaching job at Heritage High School in Lynchburg, Va. From there she worked for a nonprofit and then a Fortune 200 company.

Momentum (spelled **mom**-entum in the company's Web address) also has a Washington, D.C., office, and Cummings and Forstner have opened a second business, The Workbox, which leases office space to self-employed Richmonders.

As for that work/family life balance, Cummings acknowledges that she works a fair number of hours, but the key is that, for the most part, she decides when to work and when to be with her family. She also enjoys being the matchmaker between employer and employee. "It's an exciting thing," she says.



Tanya Moore Cummings with daughters Kennon (left) and Blakely.

liams, a son, 9/2/09 (14543 Charters Bluff Tr., Midlothian, VA 23114).
'03 Christopher K. Marston, a daughter, 6/15/09 (109 Davids Way, Evington, VA 24550).
'03 Jonathan R. Mollerup and **'03 Lauren Cloyed Mollerup**, a son, 3/21/09 (14721 Beaumeadow Dr., Centreville, VA 20120).
'03 Lori Bunnell Scheffler and **'04 Timothy D. Scheffler**, a son, 7/2/09 (320 N.W. Dillon St., Pullman, WA 99163).
'03 Heather Parks Turner, a daughter, 5/30/09 (170 Summerfield Rd., Hardy, VA 24101).

Deaths

'38 S.T. Adams, 7/23/09 (931 Ashland Ave., A-105, Elks National Home, Bedford, VA 24523).
'38 Clarence B. Cox, 7/23/09 (1702 W. Long Blvd., Raymore, MO 64083).
'38 James S. Tate, 8/16/09 (500 Elmington Ave., Apt. 320, Nashville, TN 37205).
'39 William M. Welch, 7/27/09 (1329 Knight Island Rd., Earleville, MD 21919).
'41 Elbert D. Potter, 8/7/09 (1324 Cedar Rd., No. 209, Chesapeake, VA 23322).
'43 H. Peter Bisschop, 7/1/09 (Cumberland Village, 3335 Wise Creek Ln., Apt. 301, Aiken, SC 29801).
'43 Nancie Felty Miller, 7/13/09 (2100 Brandermill Pkwy., No. 306, Midlothian, VA 23112).
'43 Hugh W. Sigmon, 7/28/09 (3355 Woodland Dr., Roanoke, VA 24015).
'43 Paul C. Worthy, 6/25/09 (512 Meadow Park Ln., Media, PA 19063).
'44 Austin T. Hyde, 7/10/09 (601 J J Guffey Rd., Rutherfordton, NC 28139).
'45 Robert W. Phillips Jr., 7/14/09 (4120 October Rd., Richmond, VA 23234).
'45 Donald A. Simpson, 7/13/09 (5301 Plaza Dr., Apt. 106, Hopewell, VA 23860).
'46 Edward E. Lane, 8/19/09 (1500 Westbrook Ct., Apt. 1133, Richmond, VA 23227).
'48 C. Theodore Hicks, 7/27/09 (P.O. Box 212187, Augusta, GA 30917).
'49 Earl W. Andrews, 8/23/09 (1641 Montpelier St., Petersburg, VA 23805).
'49 Fred C. Morris Jr., 8/28/09 (1611 Cedar Hill Road, Charlottesville, VA 22901).
'49 Nathaniel D. Nottingham Jr., 6/17/09 (12248 Fairview Rd., Painter, VA 23420).
'50 R. Conrad Dodl Jr., 7/25/09 (1201 Doulton Cir., Lynchburg, VA 24503).
'50 Cornelius Driver, 7/29/09 (103 Cove Crescent, Yorktown, VA 23692).
'50 Ralph I. Glasgow Jr., 7/3/09 (359 Prestonfield Ln., Severna Park, MD 21146).
'50 William A. Michael, 10/6/08 (910 Morrison Blvd., Apt. S1, Havre De Grace, MD 21078).
'51 James W. Lane, 7/31/09 (3117 Yeates Ln., Virginia Beach, VA 23452).
'54 Ellis P. Bucklen, 7/14/09 (5606 Graystone Ln., Houston, TX 77069).
'56 Joseph H. Wilds III, 7/18/09 (Apt. U, 3301 Park Rd., Charlotte, NC 28209).
'57 James R. Futrell Jr., 7/20/09 (2235 McCharles Dr., Tustin, CA 92782).
'57 Dorothy Clark Hulst, 8/10/09 (907 Chateau Dr., Modesto, CA 95355).
'58 James H. Bailey, 8/9/09 (5000 Mt. Stirling Farm Rd., Providence Forge, VA 23140).
'58 Louis T. Mazza, 8/4/09 (122 Mechanic St., Luray, VA 22835).
'58 James R. Richeson, 8/29/09 (5632 Beacon Hill Dr., Midlothian, VA 23112).
'59 James T. Davis, 8/13/09 (2925 Replica Ln., Portsmouth, VA 23703).
'60 Thomas A. Murray, 8/4/09 (206 Neuse Ridge Dr., Clayton, NC 27527).
'60 Robert H. Thompson, 2/22/09 (13534 Lavender Mist Ln., Centreville, VA 20120).
'61 Grayson H. Via, 8/3/09 (237 North Dogwood Tr., Southern Shores, NC 27949).
'62 Robert A. Chubboy, 8/4/09 (Rd. 1, Smock, PA 15480).
'62 Vivian Yenling Mah, 8/12/09 (1206 Second Ave., Radford, VA 24141).
'65 James A. Burrowbridge, 8/5/09 (6135 Valley Station Dr., Pelham, AL 35124).
'65 William S. Clark, 7/15/09 (69 Saratoga Cove, Ruther Glen, VA 22546).
'66 Richard L. Meadows, 8/29/09 (3605 Lucky Lee Crescent, Richmond, VA 23234).
'69 Barry L. Sutphin Sr., 7/16/09 (Rt. 1, Box 346, Wheeling, WV 26003).
'72 Charles L. Auckerman, 7/28/09 (222 W. Bank St., Bridgewater, VA 22812).
'72 Leigh G. Hurst, 8/22/09 (2072 Luster's Gate Rd., Blacksburg, VA 24060).
'72 W. Michael Reed, 8/30/09 (2210 Seventh St., Radford, VA 24141).
'73 Phillip E. Keith, 8/15/09 (1701 Keith Ln., Christiansburg, VA 24073).
'73 Reginald A. Skeeter, 8/21/09 (919 Truman Rd., Suffolk, VA 23434).
'74 Richard H. Foster, 8/30/09 (700 S. Holden Rd., Greensboro, NC 27407).
'74 Dannis E. Williams, 1/31/09 (441 Greenwell Ct., Lynchburg, VA 24502).
'75 Charles L. Smith III, 7/28/09 (328 N. Bradford St., Dover, DE 19904).
'76 Keith A. Brayshaw, 7/16/09 (Rt. 1, Box 284, Ducks Ln., Lynchburg, VA 24503).
'77 Elaine H. Jones, 8/12/09 (8979 Meadowview Dr., Manassas, VA 20110).
'77 Gene D. Smart Jr., 7/26/09 (10406 Doswell Rd., Doswell, VA 23047).
'78 Robert R. Richards, 7/21/09 (Apt. 714, 1 Colley Ave., Norfolk, VA 23510).
'79 Jeffrey M. Burton, 7/15/09 (12406 McAllen Ct., Midlothian, VA 23113).
'80 Darrell T. Cook, 8/6/09 (P.O. Box 788, Piney Flats, TN 37686).
'80 Vicki Candler Humphrey, 8/9/09 (580 Willow Oak Terr., Forest, VA 24551).
'82 Terry L. Cooley, 7/31/09 (5206 Rio Vista Ln., Knoxville, TN 37919).
'85 James E. Waterbury, 8/2/09 (5260 Autumn Run Dr., Powder Springs, GA 30127).
'86 Yvonne G. Lescure, 8/10/09 (2351 Cante Ln., Roanoke, VA 24018).
'86 Mark P. Quasius, 8/9/09 (15910 Accolawn Rd., Accokeek, MD 20607).
'89 Mark E. Hardt, 7/23/09 (1140 Cypress Tree Pl., Herndon, VA 20170).
'91 John J. Madigan III, 5/4/09 (9120 Belvoir Woods Pkwy., Apt. 209, Fort Belvoir, VA 22060-2723).
'91 Carol A. Pasley-Maddaloni, 8/8/09 (432 Fordham Rd., Woodbury Heights, NJ 08097).
'92 Edward K. Stiegel, 12/5/08 (9510 Woodbreeze

'99 Krista V. Marschner, a son, 8/6/09 (45 Friar Tuck Way, Wolfeboro, NH 03894).
'99 Carmen McGough Stowers and **'01 Steven Stowers**, a son and a daughter, 4/29/09 (138 Penn Station, Savannah, GA 31410).
'00 Brent A. Smiley and **'02 Carrie Reid Smiley**, a son and a daughter, 4/21/09 (20061 Great Falls Forest Dr., Great

Falls, VA 22066).
'01 Valerie Stover Doerig and **'02 Marc A. Doerig**, a daughter, 11/26/08 (Burglenstrasse 68, Bern 3006, Switzerland).
'01 Holly A. Gatton, a son, 9/10/08 (515 Walters Dr., Christiansburg, VA 24073).
'01 Bari Blackwell Hyatt and **'02 Michael C. Hyatt**, a daughter, 8/2/09 (200 Pershing Ave., Radford, VA 24141).

'01 Michael B. Jay and **'02 Amanda Martin Jay**, a daughter, 6/10/09 (1112 Avon St., Charlottesville, VA 22902).
'01 Jeffrey S. Lewis and **'01 Shannon Brantley Lewis**, a daughter, 3/27/09 (6116 Gaugin Cir., Roanoke, VA 24018).
'02 Justin M. Kerns, a son, 7/22/09 (11506 Sperrin Cir., Unit 401, Fairfax, VA 22030).
'02 Christopher E. Wil-

Senior-citizen alumnus keeps in step on Caldwell March

J. Morris Brown (mechanical engineering '62) called his 13-mile hike with the Virginia Tech Corps of Cadets "great," but even though he completed the Oct. 17 Caldwell March, he was disappointed that he couldn't tackle an additional 13 miles so he could have both the fall and spring marches under his belt—all in one day. Brown strained a muscle and had to rely on his son, J. Kevin Brown of Fort Mill, S.C., to finish the entire 26 miles, although he took a different route than the corps takes.

Long hikes are nothing new to Brown, a 69-year-old nuclear engineer and retired vice president for operations for USEC Inc., a uranium-enrichment company. In May, he and his wife, Phyllis, 68, walked the Grand Canyon rim to rim in a single day—a distance of 24 miles and an altitude change of one mile. And as recently as September, the couple put in a 17-mile round-trip visit—again in one day—to Keet Seel, Pueblo Indian ruins inhabited around 700 years ago.

Brown, who was a cornet player in the Highty-Tighties, is also a prolific mountain climber who has reached the tops of Mt. Kilimanjaro (at age 60), at 19,340 feet, the highest mountain in Africa; Pico de Orizaba, Mexico's tallest peak; Mt. Whitney, the highest mountain in the lower 48 states; Mt. Ranier, Washington's tallest mountain; and Humphreys Peak, Arizona's highest mountain; among others.

The Caldwell March was a special highlight for him. The Payson, Ariz., resident says that he enjoyed telling some of band company's first-year cadets on the march that he had been a freshman 51 years ago. "I was really impressed with the job Gen. [Jerry] Allen and his staff are doing with the corps," he adds.

If Brown can get the nod from Allen, commandant of cadets, he hopes to talk to the same first-year students on the spring Caldwell March—by then he will be 70 years old. After that, he notes, he will know both routes so he can walk the entire 26 miles in one day—as originally planned. Even if he stops now, he will be the oldest alumnus to complete the march.

Editor's note: Brown is a brother of Clara B. Cox (M.A. English '84), interim editor, who has also hiked the Caldwell March—twice.

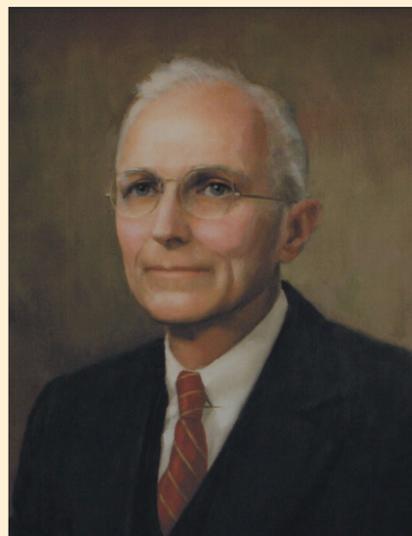


J. Morris Brown (right) with members of Band Company.

Faculty/staff

deaths

Norrine Bailey Spencer, associate provost and director emerita of undergraduate admissions, died Sept. 23, 2009. Spencer worked at the University of Delaware from 1970 to 1982 and at Virginia Tech from 1983 until 2008, serving as associate dean of the Pamplin College of Business through 2004 and then as associate provost and director of undergraduate admissions. Her Virginia Tech service included two terms as chair of the Commission on Administrative and Professional Faculty Affairs, chair of the University Appeals Committee, and secretary of the University Athletic Committee. In 2007, she was one of six university administrators and faculty recipients of the Advancing Women Award. In 2009, the Pamplin College of Business awarded her a Certificate of Excellence for Lifetime Achievement in Diversity. Upon her retirement in 2008, she was awarded emerita status by the Virginia Tech Board of Visitors.
William Alan "Willie" Shank of Forest Hill, W.Va., a senior computer specialist at the Virginia Bioinformatics Institute (VBI) at Virginia Tech, passed away unexpectedly on Tuesday, Nov. 17, 2009. Shank joined VBI in 2004, and had been at Virginia Tech since 1999. In his time at the institute, he worked on many computer projects for VBI's key day-to-day operations, including administration, core laboratory systems, human resources, and facilities. In addition to being a consummate professional, he was an incredibly nice person and a pleasure to work with.



Frank Leigh Robeson

Frank Leigh Robeson: A legacy of achievement

BY CLARA B. COX M.A. '84

Decades before distance learning and teleconferencing became standard fare, Frank Leigh Robeson taught physics to students throughout the country—without ever leaving Blacksburg.

Robeson, an alumnus of Virginia Agricultural and Mechanical College and Polytechnic Institute (shortened to VPI; today's Virginia Tech) who became a VPI professor, wrote a textbook on physics that dominated the field for several years. First printed in 1942 by the Macmillan Company, the book, entitled simply *Physics*, sold more than 34,000 copies and was reprinted eight times.

Robeson's son, Andrew, also a VPI alumnus and retired faculty member, remembers his father "spending long hours in his study working on his textbook," pecking away on a portable manual typewriter. "My father was most proud of the book, which was very basic. His technique was to make students learn the subject, not memorize it."

Frank Robeson was born in 1884 in Farmville, Va., where he became a remarkable high school student. His father, George, sent 17-year-old Frank to VPI in 1901 with instructions "to keep healthy whether you learn anything or not."

He did learn something. Nicknamed "Scribe," Robeson graduated first in his class in 1904. By then, he had already been drawing plans for campus buildings and faculty houses, most likely using the set of drawing instruments he received for being the best student in mechanical drawing. By one account, he planned 38 different structures on and off campus and around the state.

After graduating, Robeson worked for a short time with his father at a manufacturing plant in Farmville. "I found out that I was in business to please my father, and he was in business to please me. So we both quit," Robeson later admitted in a *Roanoke Times* article.

He returned to VPI as an assistant in mathematics and drawing, becoming an instructor in mathematics and graphics and then in mathematics and experimental engineering. He was named an associate professor in 1913, a full professor in 1917, and head of the physics department in 1936. During that time, he took one leave of absence to earn a master's degree from Columbia University and a second leave to complete a Ph.D. at Johns Hopkins.

Robeson married Mary Anna Mat-

thews of Blacksburg in 1912, and the couple had five children.

Andrew, the youngest, recalls his father spending "long days" in Davidson Hall: "He was there so much of the time that the picture postcard of Davidson Hall sold at the drugstores in town had one car parked in front—our old 1937 Ford."

Money was scarce for the physics department, and Robeson's wife would ask her friends "to save things like shoe horns and corset stays. He needed them for some contraption in the laboratory." Replied Frank Robeson, "We had to make do with what we had."

He did occasionally escape the confines of physics, serving on the Blacksburg Town Council and in the Virginia Academy of Science, becoming a charter member of the VPI chapter of Phi Kappa Phi, and holding memberships in the American Physical Society and several honorary fraternities. He was elevated to Fellow in the American Academy of Science.

Robeson resigned in 1954, and in 1969, VPI honored its illustrious alumnus by naming the physics building Robeson Hall. "Scribe" died in 1974, but his spirit endures—in a portrait of him that hangs in the Robeson Room, in samples of his meticulous drawings displayed in the building, in a department molded by his leadership, and in a Hokie Stone building that serves as a monument to his achievements.

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