

# INSTITUTE REPORT

VIRGINIA MILITARY INSTITUTE  
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## Field Training Exercises Offer Training, Camaraderie

By Ashlie Walter

Cadets across ROTC branches spent an unusually warm October weekend conducting activities from camping in the forest to a conducting tactical maneuvers using paint ball guns.

Fall FTX is not only a training exercise for new and incumbent cadets, but also a bonding opportunity between rats and upperclassmen.

The Army ROTC cadets were split into three companies with 1<sup>st</sup> Class cadets leading the new cadets. Maj. Alyssa Astphan, head of operations, said this was the first year the department sent two companies rather than one to the Goshen Scout Reservation. Those two companies were 2<sup>nd</sup> Class and 3<sup>rd</sup> Class cadets.



Army ROTC cadets train at the Goshen Scout Camp during fall FTX on Oct. 14.—VMI Photo by H. Lockwood McLaughlin.

“Putting an extra group at Goshen expanded the cadet training. They got to do land navigation in an area they were not familiar with,” she said about the scout reservation.

She added the third company of mostly new cadets was sent to McKethan Park which is a “great piece of land but small for the number of cadets we have.”

The landscape of Goshen allowed the cadets longer tactical lanes and was

closer to what cadets will experience in their summer training at official U.S. Army sites.

*See Fall FTX, page 15*

## Infrastructure Improvement Plan Underway

By Ashlie Walter

The VMI construction office has been busy for the past few years designing a \$30 million project to improve infrastructure across post.

Col. Keith Jarvis '82, director of construction, said his office is halfway through the design stage of phase one of two of the Post Infrastructure Improvement Project.

“These are services behind the scenes—steam lines, gas lines; services that are vastly important to the operations of post,” he said. “We want to make sure post facilities complete their mission at VMI, just like the gas service at your house.”

Most of the infrastructure to be replaced or repaired is simply old and is reaching the end of its useful life.

Construction of phase one of the Post Infrastructure Improvement Project is expected to start in the summer of 2018 and cost approximately \$18 million.

That phase will involve improving the heat plant behind barracks and upgrading the mechanical system that carries steam throughout the Institute, he said. The heat plant supplies steam to

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# 'The VMI Network in Action'

## Cadet-Alumni Career Networking Forum Can Open Doors

By Mary Price



Ashley Johnson '84 and Douglas Burdett '82 speak to cadets during the career networking forum in Marshall Hall on Oct. 14. —VMI Photo by H. Lockwood McLaughlin.

Now in its 12<sup>th</sup> year, the VMI Cadet-Alumni Career Networking Forum has as its goal helping cadets find their place in the working world.

This year's event, held Oct. 14 at VMI's Center for Leadership and Ethics, attracted nearly 40 alumni from classes ranging from 1974 to 2017, plus 55 cadets, for a morning of networking and learning about careers in a range of fields from dentistry to engineering to government contracting.

Event organizers were quick to stress that this event, although valuable for cadets seeking to solidify their career plans, is not a job fair, and there are no interviews.

"It's a time for [cadets] to gather information," said Eric Hunter '08, career networking officer with the VMI Alumni Association and one of the event's organizers. "It's a time to gather and glean from these alumni."

The alumni, Hunter explained, are often candid with cadets, telling them what they wish they'd done differently as they've traveled their career paths, or explaining

why and how they've changed their careers over the years.

"For cadets, it's a great opportunity to network," said Hunter. "This is really seeing the VMI network in action."

One member of that network, Andre Thornton '98, attended this year's event as the keynote speaker.

Thornton, a civil and environmental engineering major at VMI, worked for a major defense contractor before leaving to start his own consulting business.

Taking leadership as his topic, Thornton introduced his own model for creating leaders and invited the cadets to complete an exercise designed to help an individual identify his or her purpose in life.

"I take the time to give back to VMI because VMI has given so much to me," Thornton wrote in an email. "My foundation as a husband, a father, and a leader was crystallized while at VMI, and the relationships I've been blessed with are priceless."

Thornton went on to say that he hopes events such as the career networking forum will help cadets form new



relationships with alumni and see that a VMI education can take them places career-wise.

"I believe that as alumni, the impact of a VMI education becomes very clear," Thornton wrote.

"Hopefully us coming back to share will be helpful to cadets as they prepare to enter the real world."

Attending almost every year since the event began has been Grover Outland '81, former chair of the Alumni Association's career networking committee.

"My passion is this whole career networking area," said Outland, who currently serves as senior vice president and general counsel for Tech USA, an information technology and engineering consulting firm.

"No alumnus has a magic job wand," Outland noted, "but we do our best to clear the way." ❧



Andre Thornton '98 addresses cadets attending the career networking forum on Oct. 14 in Marshall Hall.—VMI Photo by H. Lockwood McLaughlin.

## 'The Technology Is There'

By Mary Price

A self-driving vehicle could be coming to the VMI Parade Ground.

Intrigued by the possibilities for interdisciplinary research that self-driving vehicles provide, Lt. Col. Wakeel Idewu, associate professor of civil and environmental engineering, is working toward making such collaborative learning come about at VMI.

This fall, he teamed with Col. Dave Livingston, professor of electrical and computer engineering, and Maj. Hongbo Zhang, assistant professor of computer and information sciences, to apply for a Jackson-Hope New Directions in Teaching and Research grant. If received, the grant will allow the three professors to create a prototype of an autonomous vehicle.

"Autonomous and connected vehicles touch a broad range of topics throughout post and throughout majors and disciplines," noted Idewu. He explained that an autonomous vehicle navigates via sensors, whereas a connected vehicle shares information about its speed, direction, and lane placement with other vehicles and with roadside units that act as switchboards for information coming from all vehicles.

According to Idewu, the best path forward would involve a blend of the two. "You need autonomous vehicles with connected technologies," he said.

In mid-October, Idewu's knowledge of connected and autonomous vehicles took a giant step forward when he attended a conference on that topic at the University of Michigan. While in Ann Arbor, Idewu

and the other conference attendees toured Mcity, an approximately five-acre mock-up of a driving environment that automobile manufacturers use to test connected and autonomous vehicles.

From his trip to Michigan, Idewu learned that technology isn't what's holding up the widespread rollout of self-driving cars.

"The technology is there," said Idewu. "We could have this stuff in place tomorrow."

Agreeing on a communication protocol for connected vehicles is the biggest obstacle at this point. Idewu explained that while the government favors the use of dedicated short-range communications (DSRC), a WiFi frequency that the Federal Communications Commission set aside for use by vehicles in 1999, private industry favors cellular communication because that can be monetized more easily.

Other impediments, Idewu noted, include legal issues of liability and cybersecurity, chief among them the hackability of technologies such as DSRC.

At VMI, Idewu sees many possibilities for cadets from different majors to conduct research on the possible impacts of the widespread adoption of connected and autonomous vehicles.

"Not much has been done in terms of society and how it can become impacted," said Idewu. Cadets majoring in biology or earning the Institute's exercise

science minor, he commented, might study whether or not people will be more sedentary once self-driving cars are the norm. Psychology majors might study the loss of control that comes when a human driver is no longer the decision maker.

Idewu also sees many possibilities for cadets majoring in any branch of engineering or computer and information sciences.

But don't look for VMI's self-driving car on the streets of Lexington anytime soon. The three professors are looking to start small, with a golf-cart sized vehicle that could be operated on post.

"The main purpose for it is not to actually work, but to serve as a teaching tool for cadets," said Idewu.

"My hope is that a lot of cadets from different disciplines and faculty members from different disciplines can come on board and see how they contribute to the conversation of connected and autonomous vehicles." ❧



Autonomous vehicles navigate by sensing other objects in their path.—Image courtesy of Lt. Col. Wakeel Idewu.

# Apple Day Offers Glimpse into 19<sup>th</sup> Century Fun

## Games, Crafts, Cider Making, and Dancing Among the Highlights

By Mary Price

It's been a Lexington tradition now for over three decades—and as visitors to this year's event could attest, the Stonewall Jackson House's annual Apple Day continues to grow in popularity.

Held on Saturday, Oct. 21, Apple Day attracted quite a large crowd because for the first time in its history, the event was held on Washington Street between Randolph and Main streets rather than in the back of the Jackson House as in years past.

"We wanted it to be a more festive environment," explained Grace Abele, site director at the Jackson House. "It's cramped in the back of the house. [Having the event on the street] opens things up so people can see it and it becomes more of an event."

While Abele couldn't give a specific attendance number because of the open nature of the event, she did note that having Apple Day on the street brought out not just families but young adults as well. Furthermore, over 100 people toured the Jackson House on Saturday.

As its name suggests, Apple Day is built around the Shenandoah Valley's signature fruit. Apple cider making, using a 19<sup>th</sup>-century cider press originally owned by the New Market Battlefield State Historical Park, is one of the main features of the event—as is enjoying free samples of the resulting cider. To make the cider, Abele ordered 20 bushels of Winesap apples from an orchard in Nelson County.



Apple Day attendees try to toss a bean bag through a hole in the apple tree. The apple toss was one of the many activities for kids provided by the Stonewall Jackson House during the Oct. 21 event.—VMI Photo by Kelly Nye.

Running the cider press this year were Robert Wilson, a volunteer gardener at the Jackson House, and Isaac Haney, a weekend manager at the house. As Apple Day attendees came around to watch, the duo added apples to the bin on top of the press and turned the crank. The resulting juice ran out of the bottom of the press and over a fine screen designed to catch the last bits of pulp from the fruit before collecting in a wooden bucket below.

"It's not hard to get [the apple press] going," said Wilson. "Once you get an apple or two in there, it bogs down a little bit so you just keep going."

And while Wilson had never run an apple press before, Haney was taking his second turn at the job. "Years ago, we had an apple day out where I live in Millboro, and they had a cider press going, and that's what I wound up doing much of the day, so I jumped at the chance to do it again," he commented.

In addition to apple cider making,

Apple Day offers 19<sup>th</sup> century games and crafts for children, including making apple prints by dipping cut halves of apple into paint, creating corn husk dolls, and tossing apple-shaped bean bags into a bushel basket.

Judging from the excited looks on young faces, 21<sup>st</sup> century children aren't that different from 19<sup>th</sup> century children.

"Kids are happy to do these simple activ-

ities," Abele commented. "October is a really good month, and people are looking for fun activities they can do with their family."

For adults and children, this year's event included 19<sup>th</sup> century dances such as the polka, the waltz, and the Virginia reel, led by Tom and Lesley Mack of the Shenandoah Valley Civil War Era Dancers, a group from Luray.

"[The Macks] are really good at making people feel comfortable," Abele noted. "Once people start dancing, they really enjoy it."

Abele was quick to note that without the 40 dedicated volunteers who gave their time to help out with Apple Day, the event wouldn't be possible.

"It is absolutely amazing what they do," said Abele. "The event wouldn't be a success without them. They are the heart of the event." ❧



With Washington Street blocked off to traffic, the Jackson House was able to set up booths like this one for apple painting during the Apple Day festivities.—VMI Photo by Kelly Nye.



Apple Day volunteers Robert Wilson and Isaac Haney press apples in the cider press at the Stonewall Jackson House on Oct. 21.—VMI Photo by Kelly Nye.



# POST BRIEFS

## Turner Presents Zebrafish Research

Col. James Turner '65, head of the biology department and Reid '41 Institute Professor of Arts and Sciences, presented a seminar on the role of nitric oxide and estrogen in the protection and recovery from neurotoxins

in embryonic zebrafish to Roanoke College's biology department. Turner was recently named to the Editorial Board of the *Journal of Molecular and Cellular Biology Forecast*.

## Arndt Paper Named Best in Africa Category

Oct. 20–21, Maj. Jochen S. Arndt attended the 10<sup>th</sup> annual meeting of the Association for the Middle East and Africa in Washington D.C. As part of the conference proceedings, the Association presented Arndt with the 2017 Best Conference Paper award in the Africa category for his work "Struggles

for Power, Identity and Language in Post-Apartheid South Africa: The Case of the AmaHlubi." The award recognizes "superior scholarship and composition." The winning paper, which was selected from 150 entries, is part of a larger book project.

## New Campaign Website Launched

An updated version of the website of *An Uncommon Purpose: A Glorious Past, A Brilliant Future: The Campaign for VMI*—which raised \$344.1 million in gifts and commitments—is now available. While the address is the same—[www.vmi.edu/campaign](http://www.vmi.edu/campaign)—the new version provides information on the campaign's many successes and what they mean for VMI's future. It also

includes messages from Gen. J.H. Binford Peay III '62 and the chairman of *An Uncommon Purpose*, Donald Maclean Wilkinson '61, and stories about the campaign's donors and those on post who benefit from the generosity of the 15,340 alumni and friends who gave during the life of the campaign. A full list of the campaign's donors also is provided. 🌿

# College Scorecard Reveals High Alumni Earnings

By Mary Price

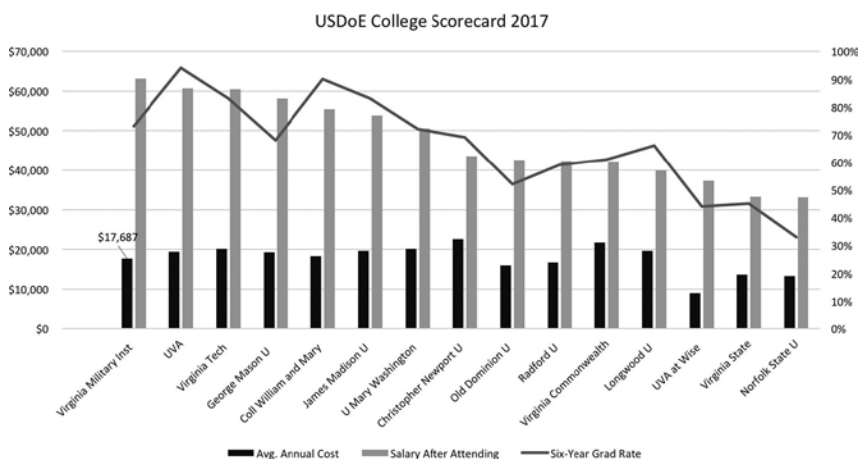
Virginia Military Institute graduates are the highest earners in the state among graduates of public colleges and universities in the commonwealth who received federal financial aid as students, according to data released at the end of September as part of the U.S. Department of Education's College Scorecard.

The College Scorecard began in 2015 as a project of the Obama administration, explained Lt. Col. Lee Rakes, director of assessment and evaluation in VMI's Office of Assessment and Institutional Research. It's designed to help students and their families make an informed decision about higher education by providing them with reliable national data on college cost, graduation, debt, and post-college earnings, among other factors.

When the College Scorecard first came out two years ago, VMI was in fourth place statewide for earnings of graduates 10 years after they entered the school. Last year, the Institute moved up to second place, and this year, VMI took the top spot, with median earnings of \$63,200.

"VMI blows everybody else away in terms of average salaries," said Rakes. "[Cadets] can come here and get a top-notch education and know that they're going to do well when they get out of here financially."

Rakes noted that this is likely the outcome of VMI's emphasis on the STEM fields of science, technology, and mathematics. "The nature of



College Scorecard data shows the high return on investing in a VMI education.—Image courtesy of the Office of Assessment and Institutional Research.

our curriculum lends itself to high-paying jobs," he noted.

The University of Virginia took second place in the earnings category, with median earnings for its graduates coming in at \$60,700. Virginia Tech was third, with median earnings of \$60,500.

In the area of average annual cost, VMI was the fifth most affordable public

college listed, with an average annual net price of \$17,687 for in-state cadets when federal financial aid is factored in. By comparison, that figure for UVA was \$19,430, and for Virginia Tech, \$20,172.

This year's College Scorecard also revealed that VMI's graduation rate of 73 percent is well above the national average of 46 percent. In addition, the percentage of cadets who return for their 3<sup>rd</sup> class year—92 percent—is significantly higher than the national average of 68 percent.

While comparing colleges is almost a competitive sport these days, with multiple media outlets vying for position in a crowded field, Rakes pointed to the clear advantage of the College Scorecard: the accuracy of its data, which is gleaned from multiple, well-established reporting systems

"This is reliable data," said Rakes. "We know it's pretty accurate." 🌿

# Jackson Memorial Hall Repairs Complete

By Kelly Nye

Scaffolding has hidden the back of Jackson Memorial Hall since June while repairs were being made to the exterior of the building. Finally, on Oct. 26, the scaffolding came down with the completion of the project.

The main goal of the project was to waterproof and repair the stucco on the entire rear exterior of the building. It had been 30 years since repairs were last made, and cracks in the stucco were allowing moisture to seep into the building. Crews from Skinner Construction demolished the damaged stucco down to the building's underlying brick, replaced the stucco, then painted and sealed the exterior wall.

"We think they did a great job," said Maj. Michelle Caruthers, deputy director of Physical Plant and project manager. "We're very pleased."



Cracks in the stucco on the back of Jackson Memorial Hall (left) are repaired after a four month restoration project (right).—VMI composite by Kelly Nye.

to examine the eagle and see that he was in pretty good condition," said Gibson.

The eagle is unique in that most building adornments on post are carved in one piece, such as the coat of arms on Third Barracks. The eagle however, is comprised of 27 pieces of stone laid together like a puzzle. Bertram Goodhue carved the high relief design in 1915 and sent the stones to the building



The Jackson Memorial Hall eagle was power washed during the repairs to the back of the building.—Photo courtesy of Col. Keith Gibson '77.

Due to JM Hall's height and close proximity to other buildings, Skinner Construction was contracted to do the project using specialty scaffolding. The company used 12 to 13 levels of scaffolding to reach the top, replacing gutters, doing window work, and power washing the stone eagle on the top while they were there.

Col. Keith Gibson '77, director of the VMI museum system, was pleased to have the chance to inspect the stone eagle for damage.

"It was a very rare close-up opportunity

site where they were reassembled on the back of JM Hall.

The total cost for the repairs was \$450,000 with funding from the state maintenance reserve funds. ✪



Damaged stucco was stripped down to the underlying brick wall during the repairs to Jackson Memorial Hall.—Photo courtesy of Maj. Michelle Caruthers.

## Kiewit Offers Interviews, Networking Opportunities

By Mary Price

Cadets majoring in engineering and economics and business had a front row seat on potential job opportunities when employees of Kiewit, a Fortune 500 construction firm headquartered in Omaha, Nebraska, paid a visit to post Oct. 22-24.

"This relationship [between Kiewit and VMI] continues to grow," said Maj. Paul Ackerman '93, assistant professor of civil and environmental engineering, who helped to coordinate this year's visit. Ackerman explained that while VMI graduates had been going to work for Kiewit for years, the company saw a significant uptick in

hiring from VMI after a group of cadets visited a Kiewit job site in Cove Point, Maryland, in the fall of 2015.

At the present time, Ackerman knows of 15 alumni who are currently working for Kiewit. Out of 25 non-commissioning cadets in the Class of 2015 majoring in civil and environmental engineering, eight went to work for the giant construction firm. "That definitely got my attention," Ackerman noted. "Who was this Kiewit?"

In 2016, two members of that year's graduating class accepted job offers from Kiewit. This year, four followed suit. This summer, three

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members of the Class of 2018 had internships with Kiewit—and so did Ackerman himself, who spent 11 weeks with the firm in Lanexa, Kansas, as part of the company's faculty scholars program. There, he learned about Kiewit's process for estimating jobs, in preparation for developing and teaching a construction estimating class in the spring of 2018.

"Estimating is just counting," explained Ackerman. "But when you're dealing with complex projects, there are different ways to count. ... It's a lot of data science."

He added, though, that a job as an estimator at a construction company goes beyond just crunching numbers, as good communication skills are vital as well. "You've got to be able to tell the owner—what do the numbers mean?" said Ackerman.

After he returned to Lexington from his summer internship, Ackerman got a call from a Kiewit recruiter, who told him, "We love VMI employees, and we want more of them." Informally, Ackerman has heard that Institute graduates are valued because they work hard, get along well with others, and are used to handling stressful situations.

In addition, Ackerman noted that VMI alumni are often willing to relocate—something that's almost a must when signing on with a company such as Kiewit, which has operations all over North America and Australia.

"It seems that VMI [cadets], because of that military mindset, some of those not going into the military are still in that mindset that traveling is easy for them," said Ackerman.

Seeking more soon-to-be graduates willing to relocate, Kiewit recruiters came to post in time for VMI's annual Career and Internship Fair, held this year on Monday, Oct. 23. However, Ackerman was quick to note that their visit wasn't just about recruiting. Kiewit employees also gave a two-hour presentation open to all interested cadets about how the use of spreadsheet software can improve project management.

"Their goal is to improve the professionalism and education in the construction industry," Ackerman commented.

And no matter if cadets wind up working for Kiewit or not, Ackerman hopes cadets will continue to take advantage of events such as Kiewit's recruiting visit. "A lot of cadets don't realize how many opportunities are out there," he stated. "They really just need to meet the companies and put a face with a name and those opportunities start moving forward." ❧



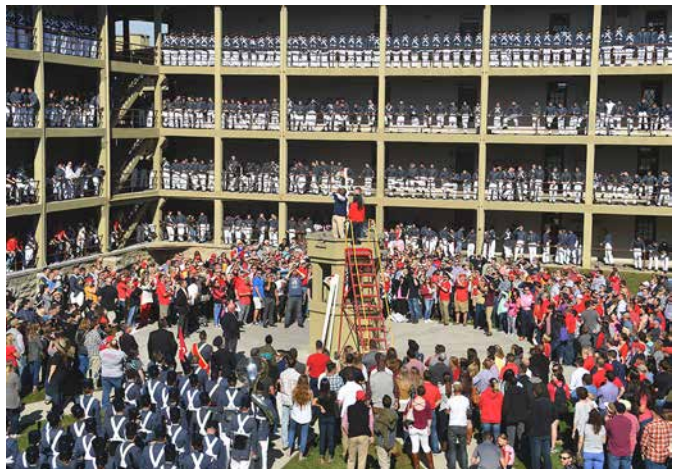
Bryan Wade '17 of Kiewit speaks to cadets during the Career and Internship Fair on Oct. 23 in Marshall Hall. —VMI Photo by Kelly Nye.

November 2017



## Homecoming

Members of the classes of 2002, 2007, 2012, and 2016 were on post for Homecoming Weekend Oct. 20-22. The festivities began for cadets with the Homecoming Hop in Cocke Hall on Friday night, then continued on Saturday with a parade, tailgating, and a football game against Western Carolina University. The Keydets fell to WCU 26-7. —VMI Photos by Kelly Nye.



# 'The Catalyst for Progress is Discourse'

## Veteran Authors Share Their Stories in Speaker Series

By Mary Price

When former Army Sgt. Kayla Williams enlisted in the Army at the dawn of the 21<sup>st</sup> century, she was seeking adventure, personal growth, and money for graduate school. What she got was a year in Iraq, where she served as an Arabic linguist with the 101<sup>st</sup> Airborne Division during Operation Enduring Freedom—and she ended her Army career with a passion for educating both the military community and the general public about issues facing women in uniform.

Williams, author of the memoir *Love My Rifle More Than You: Young and Female in the U.S. Army*, spoke at VMI Wednesday, Oct. 25, as part of a series, "The Other Side of War: Veteran Writers at VMI Presents," sponsored by the Department of English, Rhetoric, and Humanistic Studies and Sigma Tau Delta.

Williams began her remarks by stating that although more than 3.4 million women have volunteered for military service over the course of U.S. history, the general public is still largely unaware of their service. She noted that when people learn that she's a veteran, the comment she often hears is, "You're really pretty for a soldier!"

After years of mulling over this sentiment, Williams came to a realization: "When most people imagine a soldier, it's not me."

As a child, and even as a young adult, Williams never imagined herself in uniform. After graduating from college with a liberal arts degree, she got fired from a job, thanks in part to crying at work—and realized that some toughening up was necessary. She also felt a pull to give back in a way she never had before.

"I knew society had invested in me and I wanted to repay that debt," she stated.

On Sept. 11, 2001, her future changed in an instant. She was learning Arabic at the Defense Language Institute in Monterey, California, when the terrorist attacks plunged the nation into war in the Middle East.

On the ground in Iraq, Williams found her experience at first to be positive, as the Iraqis greeted her and

her fellow troops warmly. "When I was in Baghdad, my gender was absolutely meaningless," she commented. "The only thing that mattered was that I spoke Arabic—that I could help accomplish the mission."

The harassment came later, as her fellow soldiers grew restless and stressed at a long deployment.

"I didn't feel that I could be who I was," said Williams.

She also felt the burden of representing all women in uniform—that if a male soldier did something wrong or inappropriate, the fault lay only with him, but if a female soldier erred, the men around her took it as proof that women shouldn't be there.

Since her discharge from the Army in 2005, Williams has become an advocate for women in the service. She is now the director of the Center for Women Veterans at the Department of Veterans Affairs. In addition, Williams is a member of the Army Education Advisory Committee, a former member of the VA Advisory Committee on Women Veterans, a 2013 White House Woman Veteran Champion of Change, and a 2015 Lincoln Award recipient.

Cadets who heard Williams speak were impressed by her candor.

"I'm very happy to hear a female perspective on taking part in the military and serving in Iraq," said Juan Gutierrez '20. "It's

one of those aspects of the modernization of society and the military that I think should be talked about.

"Literally, the catalyst for progress is discourse," continued Gutierrez, who plans to commission in the Army. "By talking about these issues, we can raise awareness for these issues, and by raising awareness for these issues, people do more for these issues."

Agreeing with Gutierrez was Alexandra Hill '18. "As a future commissioning Army cadet, an Army officer, it's extremely inspiring to hear a woman's perspective," said Hill. "Especially because we're such a minority, we don't get to experience lots of role models."

Maj. Mary "Polly" Atwell, assistant professor of English, rhetoric, and humanistic studies, created the veteran writers series when she arrived at VMI three years ago.

"There's a burgeoning interest in war literature that's occurred with the veterans returning from Iraq and Afghanistan," Atwell commented. "A lot of people who read don't know a lot of veterans themselves and don't have access to that experience."

In addition to Williams, the series has brought to post both Kevin Powers, a National Book Award finalist, and Ron Capps, founder of the Veterans Writing Project. This spring, Air Force Capt. Jesse Goolsby,

who teaches at the U.S. Air Force Academy in Colorado Springs, Colorado, joined one of Atwell's classes via Skype.

Atwell said that her goals in creating the series included increasing the amount of interaction between the writing community and the military community and letting cadets know that it's possible to both serve one's country and become a published author.



Veteran and author Kayla Williams answers a question from a cadet during her lecture in the Turman Room on Oct. 25.—VMI Photo by H. Lockwood McLaughlin.



"For those who are really interested in publishing, I want them to see that it's really possible to combine those two careers and that a lot of people have done it," she explained.

Atwell is also interested in helping cadets break down stereotypes, both about writers and members of the military. "I'm afraid that students who are interested in writing may see it as something that can't

be combined with their politics or their lifestyle or their family background," she said.

"I want them to see that you don't have to be a certain kind of person to be a writer." ❧

## Post Infrastructure *continued from page 1*

22 facilities on post, including all academic buildings and a hot water conversion system that provides heat in all cadets' rooms.

Phase two will include replacing the VMI Police facility, widening Anderson Drive, replacing the one-lane bridge over Woods Creek with a two-lane bridge, repairing various sidewalks, and improving retaining walls on North Post.

Drilling was conducted on Anderson Drive in late October to test the subsurface soil and rock in order to determine how best to widen the road, install sidewalks, and replace the bridge, said Lt. Col. Daren Payne '90, construction project manager.

The estimated cost of phase two is \$12 million. Lynchburg-based architectural and engineering firm Wiley|Wilson is designing the project.

Jarvis said VMI currently doesn't have the authorization to start design or funding for phase two. If funding and authorization are awarded by the spring session of the General Assembly, construction could begin in late fall 2018 or early 2019.

The VMI Police moved decades ago into its current building on Letcher Avenue, also known as the Bachelor Officers Quarters which is at least 110 years old. However, the building is not ideally suited to the needs of the



Mike Jennings consults with Froehling and Robertson contractors on the Anderson Drive drilling operation as part of the Post Infrastructure Improvement Project.—VMI Photo by H. Lockwood McLaughlin.

VMI Police and has an unreinforced stone foundation.

"When it comes time, we will demolish that building and purpose-build a building for the police," said Jarvis, adding that the plan is to "construct a building that fits with the architecture of that side of post."

The funding for the project is expected to come from the General Assembly.

Jarvis said many of the projects were

drawn from the VMI master plan, which is updated annually, and can be accessed at [vmi.edu/planning](http://vmi.edu/planning).

Also on the horizon is the renovation of Preston Library in summer 2018, which will focus on plumbing and windows. Scott Shipp Hall is also expected to have some classrooms renovated in January 2019. ❧



Drilling began on Oct. 24 to test the feasibility of widening Anderson Drive as part of the Post Infrastructure Improvement Project.—VMI Photo by H. Lockwood McLaughlin.

## Darden School of Business

Economics and business cadets are making connections with the Darden School of Business at the University of Virginia this semester. In September, cadets from Omicron Delta Epsilon, an international economics honor society, and Beta Gamma Sigma, a business honor society, visited Darden and met with former president of the VMI Board of Visitors Gilmer Minor III '63. In October, Taylor Fisher, assistant director of admissions at Darden, and Barker Squire '10 addressed cadets from the Institute Honors Program during Dean's Training Time. Squire spoke about completing his MBA at Darden and his transition from the Marine Corps.—Photo courtesy of Col. Rob McDonald.



# STEM Conference Inspires

By Ashlie Walter

Nearly 300 school teachers and administrators arrived at VMI in early October to learn about new techniques and ideas to bring back to their classrooms at the 6<sup>th</sup> annual VMI STEM Education Conference.

Renowned astronaut, football player, and engineer Leland Melvin kicked off the conference by talking about how the teachers that he encountered throughout his life influenced him.

Both of Melvin's parents were middle school teachers in his hometown of Lynchburg and encouraged him to explore and learn, he said during his keynote address.



Virginia Secretary of Education, Dr. Dietra Trent, speaks to WDBJ7's Bruce Young after her keynote address during the STEM Education Conference in Marshall Hall on Oct. 4.—VMI Photo by H. Lockwood McLaughlin.

As a child, he wanted to be a tennis player like Arthur Ashe and Althea Gibson, the first African Americans to win major tennis tournaments. Both were coached by Walter Johnson, Lynchburg physician and tennis fanatic, who lived a few blocks from where Melvin grew up.

When Melvin was older, his dad brought home a bread delivery truck and announced that it was to be the family's camper. Melvin didn't believe it. His dad had had this vision of transforming the truck into a camper.

"I didn't know it, but I became an engineer that summer," he said. "We have to make sure our kids can see past the labels."

Melvin said that teachers need to find ways that motivate children of all backgrounds to go into STEM fields, like utilizing video games or music.

He said often when he visits schools and asks who wants to be an astronaut when they grow up, mostly boys raise their hands, no girls. He noted that teachers must be careful to help all students understand their potential.

Melvin continued his science and engineering studies at the University of Richmond while also playing for the football team. The dual passions in his life led to the Dallas Cowboys training camp and to his studies for a master's in materials science engineering at University of Virginia.



Astronaut and former NFL player Leland Melvin demonstrates how to catch a football in space to cadets while meeting with them for breakfast during the STEM Education conference on Oct. 3.—VMI Photo by Kelly Nye.

Hamstring injuries sidelined his football career, but friends at UVA nudged him towards the NASA astronaut program. During his NASA training, Melvin was sidelined for a second time after a failure in his helmet cause temporary deafness. He thought that he would never be able to overcome that hurdle to fly in space, but he did.

"When talking to kids about their journey... this journey will have many pitfalls, but you keep going," he said.

He went to space twice, once in 2008 and again in 2009.

While up among the stars, Melvin said his "aha moment" was eating Thanksgiving dinner—including rehydrated turkey—with astronauts from all over the world at the International Space Station.

Many astronauts refer to developing an "orbital perspective" from looking at the Earth from space, he said. After retiring from the astronaut program, Melvin said he realized "my job now is to pass that [orbital perspective] on."

Melvin's journey to space is detailed in his recent book *Chasing Space*, which is published in editions for adults and young readers.

Throughout the two-day STEM conference, nearly 300 teachers and



Rosemary Smith of the AERO Institute leads the STEM Education Conference breakout session NASA Engineering Design Challenges: Content vs. Context in Preston Library's Turman Room on Oct. 3.—VMI Photo by H. Lockwood McLaughlin.



instructors meandered between different breakout sessions focused on new techniques that teachers can take back to their classrooms.

VMI cadets led a few sessions, including how to use 3D modeling software, and VMI alumnus John White '74, a meteorologist with the American Meteorological Society's DataStreem project, led a session on weather modeling.

The conference wrapped up with a few words from Virginia Secretary of Education Dietra Trent.

Trent likened good teachers to good artists by saying they are "creating masterpieces to be sent out to the world each day."

Trent went on to highlight the achievements at the state level that have helped teachers do their job, from pulling back Standards of Learning testing at the elementary school level to giving teachers two pay raises this past year.

"There is no other job that reaches each child in America," she said. 🌟

## Guard Team Helps Keep Barracks Secure

By Ashlie Walter

Since the first cadet sentinels relieved the guard of the Lexington Arsenal on Nov. 11, 1839, and stood sentinel over the grounds, cadets have played an important role in helping keep the Institute secure.

Today, as the Institute adapts to ever-changing security threats, the guard team is working hard to supplement the work of VMI Police to make the post more secure.

In recent years, the Institute has adjusted its barracks visitor policy so that all visitors who are not cadets must check in at the guard room in Jackson Arch. Alumni who want to visit barracks are asked to show a picture ID so they can be verified as an alumni. All visitors are given large white tags that label them as visitors.

Cadet sentinels are being taught how to professionally challenge visitors who might not have a tag and how to de-escalate a situation, said Nathan B. Kraemer '18, regimental S-1 captain.

"Across the Corps, regardless of duty status, cadets are engaging and reporting issues to an appropriate authority," he said.

"The guard team and police have a positive working relationship in order to establish a proactive response to public safety concerns," VMI Police chief Michael Marshall said.

He said the VMI police officers interact with the team on a case-by-case basis because the guard team plays a role with responsibilities that complement those of the VMI Police.

Sgt. Maj. John Neel, who works closely with the guard team, said his staff is trying to make it easier for the guard team to identify who belongs in barracks and who does not.



A cadet patrols Third Barracks during guard duty at the sentinel box. —VMI Photo by Kelly Nye.

"The way you push bad stuff away is by being professional and observant," Neel said.

The guard team is made up of cadets from all years and it rotates among companies. A different company has responsibility for the guard team each day, led by upper class cadets from that Company. Leaders of each day's duty company generate a roster of cadets assigned to the guard team.

Neel added that preparing the guard team for better security is something that he has wanted to complete before his upcoming retirement.

"I talk to cadets every day about this issue; we talk about

security and how we want sentinels to act," he said, adding he has been stopped numerous times by the guard team while wearing civilian clothes in barracks during off hours.

Earlier this year, VMI contracted Wiley|Wilson to conduct a safety and security study. Most of the study's recommendations concerned increasing control of vehicle and pedestrian traffic throughout post.

Those recommendations have helped the Institute close gaps in its security protocol, and a lighting survey took place in mid-October on post to examine deficiencies in outdoor lighting. 🌟



William Crittenden '20 checks in with Zachary McBride '19 in the guard room. —VMI File Photo by Kelly Nye.

# 'To Make Math Relevant'

## Preparations Well Underway for Math That Matters Launch

By Mary Price

The launch of a new math curriculum for 4<sup>th</sup> Class cadets whose majors do not require calculus is now less than a year away—and this academic year, members of the oversight committee for *Math That Matters: Math for the Modern World* are concentrating their efforts on teacher training and curriculum development.

“When people think of math, they think of the equations and the numbers themselves,” explained Col. Troy Siemers, chair of the Department of Applied Mathematics. “The overall point of the [quality enhancement plan] is not only to cover that stuff, which is clearly important, but to put it in the larger perspective of, ‘How is this related to something in the real world?’”

To help faculty better understand the use of math modeling, which is the use of math to represent and hopefully solve real-life problems, on Nov. 6 Dr. Ben Galluzzo of Shippensburg University gave a presentation, “Mathematical Modeling Education.” Galluzzo, a national expert in the field of math modeling, has co-authored publications on that topic with Maj. Karen Bliss and Maj. Jessica Libertini, both assistant professors of applied mathematics.

Plans to develop the new curriculum began in 2016 as VMI prepared for its 2017 bid for reaccreditation by the Southern Association of Colleges and Schools’ Commission on Colleges. As part of the reaccreditation process, each college or university must develop a quality enhancement plan to strengthen some aspect of its curriculum. VMI received word from SACS earlier this year that its reaccreditation bid was successful.

This year, faculty from the Department of Applied Mathematics have joined with faculty from eight departments whose majors do not require calculus to learn more about the quantitative skills cadets graduating with those majors should have. The goal is to create a 4<sup>th</sup> Class math curriculum that uses math modeling to engage cadets more fully in their required math coursework. By having cadets solve problems that come from the realms of biology, history, or international studies, for example, faculty members hope that cadets will learn at a deeper level.

“Math modeling ... seems to be about making mathematics more relevant to undergraduates,” said Maj. John Matsui, assistant professor of history and a member of the QEP committee’s subcommittee on instructor training.



Members of the QEP steering committee meet in Scott Shipp Hall to discuss the *Math That Matters* launch. —VMI Photo by Kelly Nye.

“Sustainable math modeling can be applied to real world things, like recycling,” Matsui continued. “There are a lot of ways to make these equations, problems, models directly relevant to cadets.”

Matsui, whose specialty is Civil War history, noted that for him, math became less relevant after high school geometry.

Since coming to VMI, he’s found that his 4<sup>th</sup> Class advisees often complain that their statistics classes aren’t relevant—and Matsui is hopeful that once the new curriculum is implemented, those complaints will stop.

“My hope is that starting next fall, my advisees will feel that what they’re learning in statistics can be applied more directly,” said Matsui. “One of the explicit goals of the QEP is to make math relevant, not just to historians, or chemists, or whatever, but across the disciplines.”

In the spring, another speaker will visit post as part of the *Math That Matters* launch. Dr. Brett Jones, professor of educational psychology at Virginia Tech, will speak on student motivation—and because his topic applies to all learners, both Siemers and Matsui expressed the hope that faculty from a wide range of disciplines will attend Jones’ talk.

Rollout of the *Math That Matters* curriculum is scheduled for fall 2018. The curriculum is currently under review by the Core Curriculum Oversight Committee and the Curriculum and Instruction Subcommittee of the Academic Board. In addition, some members of the faculty in the Department of Applied Mathematics are already piloting modules from the new curriculum in their current classes. 🍁



# Chris Perry Parts from VMI

By Kelly Nye

On Oct. 22 Maj. Chris Perry '05 completed 11 years of working with cadets at VMI. He is now going to Fort Bragg, North Carolina, on active duty orders with the Army Reserve as a chaplain for a special forces unit there.

After graduating in 2005, Perry was absent from VMI for only one year before returning as an employee in the Cadet Life office. Several years later, the Cadet Life office merged into the Commandant's office, and he had been there ever since.



Maj. Chris Perry '05 marches with the regimental band in Pasadena, California during the Rose Bowl parade in Jan. 2016.—File photo courtesy of Ned Riester '78.

"It's definitely a huge transition," Perry said of leaving VMI. "For me, I'm facilitating a lot of things and I'm helping put stuff together, but the reality is that my heart is going to miss the cadets and miss investing in them. ...Knowing the ones that are struggling and then watching them make it out of here on graduation day... that's where the joy comes from."

Perry will also be leaving his position as interim associate pastor for First Baptist Church in Lexington. The one-year position at Fort

Bragg will offer similar opportunities, but on a whole new level. The unit Perry is assigned to recently lost soldiers in the line of duty.

"I'll be helping families versus one specific cadet," explained Perry. "I'll be dealing with some very serious stuff."

Perry completed seminary at Liberty University in May of 2014 and commissioned into the National Guard. He transferred to the Army Reserve when the job at Fort Bragg became available. The position, which could extend into several years, will also send him to Germany and Africa to counsel units stationed there.

"It's going to be a challenge," said Perry. "I'm looking forward to learning a lot. I'm just humbled to be able to fill that slot."

While he will be missed by the VMI community, he promised to pop back in from time to time. He also wanted cadets to know they can contact him if they need anything.

His parting advice to cadets was, "finish strong." He said, "That's one of the greatest lessons I ever learned when I was very young: you finish it. You finish what you start, and be honorable while you do it. If they do that, they'll be fine." ❄



Maj. Chris Perry '05 greets cadets and their dates at the Homecoming Hop on Oct. 20 outside of Cocke Hall.—VMI Photo by Kelly Nye.

## Class of 2007 Reunion Campaign

The Class of 2007 presented the initial proceeds of its 10<sup>th</sup> reunion campaign—\$210,120.07—at the reunion parade Oct. 21. A total of 119 brother rats contributed, giving the class a participation rate of 35%. Robert P. Louthan '82, president of the VMI Alumni Association (far left), and Gen. J.H. Binford Peay III '62 accepted the check. The gift was presented by (left to right) Elise Woodworth, the chairwoman of the 2007 reunion campaign committee and a trustee of the VMI Foundation; Jamaal Walton, the president of the Class of 2007; and two reunion campaign committee members, Tabitha Davenport and Chase Perry.—VMI Photo by Kelly Nye.



# VMI Theatre Continues Four-Decade Tradition

By Kelly Nye

One of VMI's most storied cadet clubs, VMI Theatre, was established in 1970 and continues to this day. Despite constant time constraints for cadets and several changes in venue, the club has offered generations of cadets an outlet for creative expression—most recently in the play *Thieves' Carnival*, which ran in late October.

One of the reasons for the club's continued success is Joellen Bland. Bland began working for VMI Theatre in 1978 and took over as director in 1982. She directs a fall and spring production every year with the cadets, then a summer and Christmas production with the VMI Community Theatre.

VMI Theatre holds open auditions for cadets and community members, with priority given to cadets. This gives cadets a chance to interact with community members, especially when they are on post for summer school.

"Working with the community actors is a lot of fun. [The cadets] can learn a lot from them and they're wonderful. They just pitch in and help," said Bland.

Virginia Villani '19 performed in one of the summer productions while on post for summer school. "It was a very different environment," she said. "We met around the same time and it was something to look forward to at the end of the day."

Throughout the years, the club has performed in many venues around post, including Scott Shipp Hall, Jackson Memorial Hall, and Brockenbrough Auditorium in Nichols Engineering Building. Storage for props and costumes was tricky then. For example, while using Brockenbrough Auditorium, props were stored in the basement of the commandant's house.

Finally, with the completion of Marshall Hall in 2009, the club got a permanent home in Gillis Theater. Though they have to schedule performances around events hosted by the Center for Leadership and Ethics, the club now has a rehearsal room and backstage space for storage.

Having a professional theater to work in has also opened leadership opportunities



The cast and crew of *Thieves' Carnival* pose for a photo after their opening performance on Oct. 25.—VMI Photo by H. Lockwood McLaughlin.

for cadets. Scott Kerchberger '18 has worked with the sound and the lighting systems in Gillis as technical director since his 4<sup>th</sup> class year.

Kerschberger is usually in charge of cadets who volunteer to help with the productions. "I have people who run backstage. I have people who run up and around through the lighting grid. I have people who sit in the back in the technical booth," he said. "Most of our time is spent in the technical booth."

Now he is passing that knowledge on. Most recently for *Thieves' Carnival*, his 10<sup>th</sup> show at VMI, he had six helpers. Most of them were rats learning the ropes before Kercherger graduates this spring.

But the greatest opportunity for growth the VMI Theatre program offers is the chance to develop creativity within cadets,

to study human expression and mood. Even with their regimented schedules, these cadets make time for this outlet.

Brennan MacDonald '18 is a member of the Officer of the Guard Association, plays in the pipe band, and volunteers for Rat Challenge. But he makes time after Supper Roll Call four days a week to make it to rehearsal.

"I think we do an important thing, keeping fine arts and theater arts alive at a school like this," said MacDonald. "It's important to have an outlet for people ... and to utilize this place. It's important for artistic expression."

And Bland is thrilled to have cadets who are eager to find the time to make the productions happen. "We get lots of talented cadets who do lots of things." ❁

## Law School Fair

A representative from Regent University School of Law speaks to Bryan Reheil '18 during the VMI Pre-Law Society's Law School Fair in Marshall Hall on Oct. 16. Representatives from American University, Appalachian State University, Catholic University of America, College of William and Mary, George Mason University, George Washington University, Georgetown University, Liberty University, Penn State, Dickinson, Regent University, University of North Carolina, University of Richmond, University of Virginia, and Washington and Lee University attended the fair to speak to cadets who are interested in pursuing law.—VMI Photo by Kelly Nye.





"It was a good weekend. We got positive feedback from the cadets. They felt like they were engaged, successful," she said.

They marched with loaded ruck packs to McKethan from VMI where they set up patrol bases, said Lt. Col. John Brown, senior military instructor. Saturday was followed by a 7-mile ruck march and squad and platoon tactics.

Meanwhile, the Naval ROTC unit started FTX with the Navy's 242<sup>nd</sup> birthday celebration, followed by physical and mental training. Navy cadets conducted stations for practicing life on board a ship, performed a fire fighting exercise with the Lexington Fire Department, and played a football game against the Marines.



Air Force ROTC cadets use the Leadership Reaction Course on North Post to train during fall FTX on Oct. 14.—Photo courtesy of Air Force ROTC.



Naval ROTC cadets train with the Lexington Fire Department near Fiorini Field during fall FTX.—VMI Photo by Stephen Hanes.

The Marines spent time camped out in the woods without tents on Oct. 14 to 15, along with various training events that tested their physical and mental skills, according to Col. Dave Coggins, commanding officer of Naval ROTC.

On Friday, Air Force ROTC performed leadership exercises for train underclassmen in "the art of leadership," said Ryan U. Aranzamendez '18.

The next day, they were given paint ball guns and marched to Lackey Farm to practice squad tactics. To wrap up, the cadets returned to North Post for physical training and fitness tests, as well as time on the Leadership Reaction Course, he said. 🇺🇸



## Senior Military Colleges Conference

School administrators and cadets from the University of North Georgia, Norwich University, Texas A&M University, The Citadel, Virginia Tech, and Virginia Women's Institute for Leadership at Mary Baldwin College met at VMI during the Senior Military Colleges' Conference on Oct. 9. The administrators took review with Gen. J.H. Binford Peay III '62 during a parade that afternoon. The annual conference's location rotates among the senior military colleges and gives participants a chance to discuss common concerns, including commissioning programs, Department of Defense and service initiatives, and Title IX issues.—VMI Photos by Kelly Nye.







## Familiar Haunts

Cadets dressed up to hand out candy to trick-or-treaters in barracks on Halloween during the annual trick-or-treating in barracks event. The Virginia Museum of the Civil War also hosted a seasonal event, *Spirits of New Market*, on Oct. 28. Volunteers reenacted the night after the Battle of New Market during a lantern tour of the grounds.—VMI Photos by Ashlie Walter and H. Lockwood McLaughlin.

