

# INSTITUTE REPORT

VIRGINIA MILITARY INSTITUTE  
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## Change of Command

Members of the Class of 2018 ceremonially hand leadership over to the Class of 2019 during the change of command parade May 14. Finn Swenson '18 passes the regimental colors over to Gen. J.H. Binford Peay III '62, who hands them to incoming regimental commander Ben Dixon '19. Swenson's role as regimental commander was memorialized prior to the parade as his name was added to the bronze plaque in Jackson Arch (below left). Battalion and company commanders also handed over leadership to the incoming 1<sup>st</sup> Class during the parade, while the rest of the Class of 2018 enjoyed their first parade as spectators.—VMI Photos by H. Lockwood McLaughlin.



## Largest Class Ever Graduates Over 350 Members of the Class of 2018 Receive Diplomas

By Mary Price

There were tears, hugs, smiles, and sprinkles of rain as the Class of 2018 graduated in Cameron Hall on Wednesday, May 16. This year's graduating class was the largest in VMI history, with 355 members

graduating. Overall, when members of other classes are included, 373 cadets crossed the stage to receive their diplomas.

This year's class was also exceptional in that just over 60 percent of cadets

commissioned or will soon commission into the armed services, the vast majority doing so during the joint commissioning

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The Institute Report, VMI's monthly newsletter, publishes eight issues during each academic year. Inquiries, suggestions, news items, and address changes should be directed to Editor, Institute Report, VMI Communications and Marketing, Lexington, VA 24450-0304; (540) 464-7207; or [VMIReport@vmi.edu](mailto:VMIReport@vmi.edu). © 2018 Virginia Military Institute.

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## Class of 1968 Honored

By Scott Belliveau '83

The Institute hosted numerous classes for spring reunion weekend April 20-21. This year, the Class of 1968 celebrated a milestone—its 50<sup>th</sup> reunion.

With the help of the VMI Alumni Agencies, the class reunion committee organized a number of activities for the 299 Brother Rats and guests who attended. On Friday, there was golf and sporting clays in the afternoon, and that evening, the class gathered in Marshall Hall for the customary dinner with the superintendent.

After a memorial service in Jackson Memorial Hall and a class picture on the steps of Preston Library, the class attended the traditional reunion parade. During the parade, five Brother Rats representing the class—T. Bryan Barton, Dean A. Kershaw, W.M. Jeffress Jr., Thomas J. Hickey, and George H. Roberts Jr.—presented the Institute with initial proceeds of the class's 50<sup>th</sup> reunion campaign at the reunion parade: more than \$14 million in gifts and commitments. Along with the other reunion classes, the



Members of the Class of 1968 present Gen. J.H. Binford Peay III '62 with a check for over \$14 million during the parade on April 21.—VMI Photo by Ashlie Walter.

Class of '68 marched into the Old Barracks courtyard following the parade and gave the Old Yell.

The reunion's formal events ended that evening with a class dinner at Evans Hall at Washington and Lee University.

Added to the \$1.83 million raised by the Class of 1992 for its 25<sup>th</sup> reunion campaign and the \$222,000 that the Class of 2007 donated for its 10<sup>th</sup> reunion campaign, the Class of 1968's gift brings the grand total raised by this academic year's reunion campaigns to more than \$16.1 million. 🌟

## Club Sports Banquet

Athletes and coaches are honored for the 2017-18 season during the club sports banquet in Crozet Hall May 3. Club lacrosse coach Lt. Col. Kevin Faust '96 was named best new coach following the club's successful season. The first-year coach took the team to the National College Lacrosse League championship in May. Honored as best all-around athletes were running club cadets Josh Orr '18 and Sarah Dickenson '18.—VMI Photos by Stephen Hanes.







## Fridge Removal from Chessie

Capt. Isaac Slone and cadets in the rock climbing club—Ian Smith '20 and Jacob Wentworth '19—climb the rock face on the Chessie Nature Trail to help physical plant crew members remove a precariously perched refrigerator. The fridge had been on the side of the trail for the last 30 years, with a cedar tree anchoring it to the cliff.—VMI Photos by Kelly Nye.



# Moreschi Named Dean of the Faculty

By Mary Price

Col. Robert “Bob” Moreschi, a 16-year veteran of the VMI faculty and chair of the Department of Economics and Business since 2013, has been chosen to succeed Brig. Gen. Jeffrey Smith Jr. '79 as deputy superintendent for academics and dean of the faculty. He will become VMI's 11<sup>th</sup> dean.

“Colonel Moreschi has a strong background in teaching, scholarship, and academic leadership, and is highly respected and admired by the VMI family,” said Gen. J.H. Binford Peay III '62, the Institute's superintendent. “He is a seasoned department head and is prepared to lead our academic program as VMI enters its 179<sup>th</sup> year.”

In his time at VMI, Moreschi has taught hundreds of cadets and has overseen a department of 13 full-time faculty, seven part-time faculty, and 225 majors. In 2014, Moreschi led his department's successful bid for reaccreditation from the Association to Advance Collegiate Schools of Business (AACSB). He has served as the John and Jane Roberts Institute Professor in Free Enterprise Business since 2016. Since 2002, he has served as an adviser to the Cadet Investment



Col. Robert Moreschi

Group, and for the past two years was the faculty representative to the VMI Foundation Board of Trustees.

“To be selected as deputy superintendent for academics and dean of the faculty is a distinct honor, made more so because of the support I have received from faculty and staff across the post,” Moreschi said. “I believe I can use my VMI experience, coupled with management capabilities honed in the business world, to reinforce a sense of mutual respect to this academic community, and can build a team in which all stakeholder voices are important and heard.”

Before coming to VMI, Moreschi worked in the financial services industry for 14 years as an equity analyst and a senior manager. He is currently serving as the president of the Academy of Financial Services and is an associate editor of the *Journal of Personal Finance*. He is a past associate editor of the *Journal of Economics and Finance*.

His community activities include serving as a member of the audit and oversight committee of Kendal at Lexington and since 2012 as treasurer of Lexington Presbyterian Church. He is a ruling elder of Lexington Presbyterian Church, was a board member of the United Way of Lexington/Rockbridge, and a long-time member of the Lexington Kiwanis Club.

Moreschi holds a master's degree and doctorate in economics from the University of Illinois at Urbana-Champaign. He received his undergraduate degree from Augustana College. He will assume his new duties July 1 and be promoted to brigadier general in the Virginia Militia. Smith, who has served as deputy superintendent for academics and dean of the faculty since 2014, plans to join the VMI faculty after a brief leave. 🌿



ceremony Tuesday, May 15. Graduates came from 37 states and four foreign countries.

The valedictorian of the Class of 2018, Thomas A.M. Schmitt, reminded his listeners, both Brother Rats and underclass cadets, that they should treasure their time at VMI because it is so limited.

"It takes four years to graduate from VMI, and for the first two, you're just along for the ride," said Schmitt. "By the time you've got it all figured out, you're wearing a coatee and sitting on the floor of Cameron Hall wondering where the time went."

Three members of the Class of 2018 received special awards during the ceremony.

The first Jackson-Hope Medal for highest attainment in scholarship and the Cmdr. Harry Millard Mason Academic Proficiency Award were awarded to Army 2<sup>nd</sup> Lt. Jarred Doran, a distinguished military graduate who earned a bachelor of science degree in biology.

The second Jackson-Hope Medal for second highest attainment in scholarship and the Col. Sterling Murray Heflin 1916 Academic Proficiency Award were awarded to Army 2<sup>nd</sup> Lt. Victor Kolle, a distinguished military graduate with Institute honors who earned a bachelor of arts degree in economics and business with a concentration in financial management.

The Society of the Cincinnati Medal for efficiency of service and excellence of character was awarded to Ross Schmeisser,



Ross Schmeisser '18 receives the Society of the Cincinnati Medal during the graduation ceremony held in Cameron Hall May 16.—VMI Photo by H. Lockwood McLaughlin.

who earned a bachelor of science degree in mechanical engineering and a minor in mathematics. Schmeisser also received the Richard J. Marshall and Sumter L. Lowry Awards, which are presented to the recipient of the Cincinnati Medal.

Each graduate, of course, has a unique story—but three members of the Class of 2018 definitely took the road less traveled on their journey to the Institute.

Air Force 2<sup>nd</sup> Lt. Jack Smith grew up with two dreams—one of playing Major League Baseball and the other of military service—but eventually he came to the painful realization that, for him, the two were mutually exclusive.

Smith grew up in Wiesbaden and Stuttgart, Germany, with a three-year stint in Ankara, Turkey, thanks to his father's Army career. Growing up, he knew that



Cameron Hall is filled to near capacity to watch 373 cadets graduate May 16.—VMI Photo by H. Lockwood McLaughlin.

someday, he'd wear a military uniform just like everyone around him.

"I always wanted to serve," said Smith. "That was something that everyone in our family's always done."

Upon graduating from high school, Smith played a year of college baseball at the New York Institute of Technology before realizing that he wanted to be at a school with a greater military emphasis. He'd also realized that to pursue a career in Air Force special operations, he'd need to put away his baseball gear.

"It was very hard to balance playing an NCAA sport and this specific career field," said Smith. "Plus, baseball comes to an end eventually. The longevity of military service was bigger in my eyes."

At VMI, Smith joined the rugby team for camaraderie and exercise—but concentrated most on getting ready for last summer's testing for potential Air Force special operations personnel. He and others from across the nation traveled to Camp Bullis, Texas, for a

week assessing the candidates' leadership, physical fitness, and mental aptitude.

Of the 45 candidates, only eight were selected to be Air Force special operations combat controllers. Of those eight, only two were ROTC cadets—and one was Smith. The Air Force special operations program has been ongoing since 2008, and Smith is the first VMI cadet to ever be selected for it while still a cadet.

"This was my dream from day one," said Smith. "I was ready to make the sacrifice of giving up baseball for it."

Like Smith, Matthew Eagle had always loved baseball. But he'd never thought of himself as college material, as no one in his family had ever started and completed college. When a coach urged him to consider playing baseball in college, though, Eagle took the recommendation seriously.

He came to VMI as a preferred walk-on in the fall of 2014, and while baseball went well, the rest of life at VMI didn't, at least at first.

Eagle found out quickly that the attitude he'd cultivated on the streets of Norfolk, Virginia, wasn't going to do him any favors once he was in the Rat Line.

"The Rat Line was a shell shock," he admitted. "I wasn't the most disciplined kid. I learned early on not to talk back."

Academics were a struggle as well, as the public high school he'd attended had left him ill prepared for college-level work. He'd never written a paper longer than three pages, and he'd never typed a paper either. All of his high school work had been handwritten, so he'd never had to learn the mechanics of formatting an essay.

At the end of his rat year, Eagle had a 1.7 grade point average. But he'd learned early on that if you ask for help at VMI, assistance comes swiftly. "When I needed help, [professors] helped me," he stated. "At the Writing Center, they helped me."

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## 'A Fierce Defense of the Truth'

### Former Secretary of State Rex Tillerson Urges Commitment to Integrity

Addressing the graduates during commencement exercises May 16 was former U.S. Secretary of State Rex Tillerson. Tillerson, who served as secretary of state from February 2017 to March 2018 after retiring as chairman and CEO of ExxonMobil, told his audience that the United States is facing a growing crisis in truth and integrity—and that it is only by our collective efforts that we as Americans can avert that crisis.

A free society, Tillerson noted, must have access to the truth. "Freedom to seek the truth is the very essence of freedom itself," Tillerson stated. "It is only by a fierce defense of the truth and a common set of facts that we create the conditions for a democratic, free society comprised of richly diverse peoples."

The former secretary of state went on to say that if the country's leaders conceal truth or we as citizens accept without question their version of the truth, then American democracy itself is in peril.

"A responsibility of every American citizen to each other is to preserve and protect our freedom by recognizing what truth is and is not, what a fact is and is not, and begin by holding ourselves accountable to truthfulness and demand that our pursuit of America's future be fact-based," said Tillerson.

"When we as people, a free people, go wobbly on truth, even on what seems the most trivial of matters, we go wobbly on America," he remarked. "If we do not as Americans confront the crisis of ethics and integrity in our society among our leaders of both the public and private sector, regrettably even among the nonprofit sector, then American democracy as we know it is entering its twilight years."

Collective integrity, though, depends on individual integrity. Speaking more directly to the soon-to-be graduates, Tillerson reminded them to choose employers wisely, seeking organizations with high

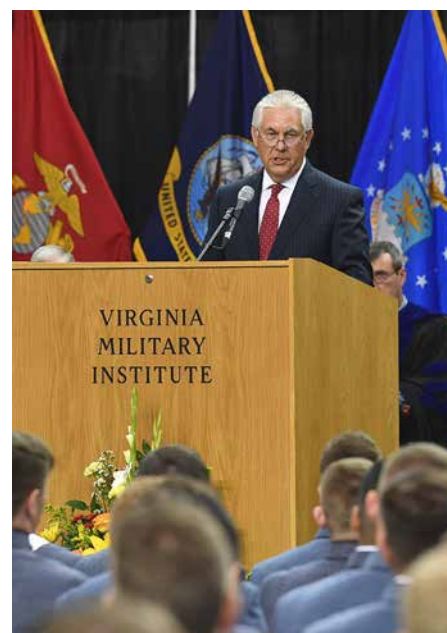
ethical standards and a commitment to wise leadership.

"See how the leaders you are following carry themselves, how they manage their responsibilities," Tillerson stated. "Study how they communicate and make decisions. Observe how they learn from mistakes and missteps, both theirs and those of others."

In his remarks, Tillerson noted that he drew his definition of integrity—"the state of being complete and whole"—from the Merriam-Webster Dictionary.

"Absent a life of integrity, no human being can live a life that's complete and whole," the former secretary of state commented. "With integrity, perhaps we have a chance."

— Mary Price



Former Secretary of State Rex Tillerson speaks to the Class of 2018 during the commencement address in Cameron Hall May 16.—VMI Photo by H. Lockwood McLaughlin.





## Employee Breakfast

Classified employees gather in Crozet Hall May 17 for the annual employee breakfast. Hosted by Parkhurst Dining and the human resources department. Employees were honored for their years of service in five-year intervals. Chris Clark in communications and marketing and Karen Robinson in football were the longest-serving employees recognized, each with 45 years of service to the Institute.—VMI Photos by H. Lockwood McLaughlin.



# Honors Week Project Explores the Causes of Conflict

By Mary Price

Each April, Honors Week allows cadets to share their learning with one another and the wider VMI community. Cadet projects are as unique as the cadets themselves, but all share a common theme of wanting to delve deeper into a particular field of study.

Presenting at Honors Week this year was Eric Cedotal '18, a physics and applied mathematics double major whose Institute Honors thesis was entitled, "Utilization of Decision Forests Techniques in Understanding Civil Conflict."

Cedotal found what would be a project for the remainder of his cadetship when he took a math modeling class in his 3<sup>rd</sup> Class year with Lt. Col. John David, associate professor of applied mathematics. Near the end of the class, cadets were asked to do an independent project, and when Cedotal did his project—one focused on predicting crime rates in Chicago—he discovered a deepening interest in using math to solve real-world problems.

"I really enjoy the field of predicting things using previous data," he commented.

That summer, Cedotal did a Summer Undergraduate Research Institute (SURI) project on using decision trees to predict civil war. A decision tree offers users a way to navigate through a realm of choices by answering "yes" or "no" to questions and then pursuing more questions based on those answers.

That summer project related to the research that David and Lt. Col. Atin Basuchoudhary, professor of economics and business, have been undertaking for the past few years as they strive to apply mathematical problem-solving models to economic issues.

After completing the SURI project, Cedotal kept going with an independent study and, ultimately, an honors thesis, as he sought to



Eric Cedotal '18 reviews data with Lt. Col. John David April 20.—VMI Photo by Mary Price.

find a better way to predict civil war in a given nation.

"The idea is that in the world of trying to predict and understand civil war—the literature and the experts, they're all very theory driven," said Cedotal.

Seeking a more objective model, Cedotal took 68 possible variables and plugged them into a computer model

using machine learning, which is a form of artificial intelligence. Then, he used a technique known as the decision forest to get to a predictive value.

"You essentially hide [the results of the decision trees] in a metaphorical bag and you pull them out the average results of all of them," Cedotal explained. "The forest is more accurate than one tree."

In the end, Cedotal found an unsurprising result: conflict begets more conflict. "If you are currently in civil war, there is a 60 percent chance you are going to be in civil war next year," he said. "People have theorized that, but we've now proved that mathematically."

Having seen how well decision trees worked for this project, Cedotal now advocates for their more widespread use.

"It turns out that decision trees are a lot faster with these huge data sets than any other technique," he noted. "I highly promote

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the use of decision forests in the social sciences, which is kind of an unused thing.”

David, Cedotal’s thesis adviser, said that Cedotal had made an important contribution to the body of knowledge about the use of machine learning in the social sciences.

“How do you begin to understand phenomena in nature where the amount of data we are getting about it is kind of getting

overwhelming?” asked David. “Eric’s idea is a way to take some of the more recent advances in the machine learning field and use it to narrow your possible candidates for further analysis through some more advanced statistical methods.”

This summer, Sara Pessognelli ’20 will undertake a project drawing off Cedotal’s work. She will use some of the same variables he used, but with the goal of predicting terrorist attacks. 🐼

## Taking it to the Streets—and Beyond

### Photography Projects Explore People of Lexington, Shadows of Family’s Past

“You can go in with an objective, but at the end of the day the project is going to figure itself out.”

That’s what Carlee Anderson ’18 has to say about two photography and writing projects she’s completed in the past year. One was a Summer Undergraduate Research Institute project in which she interviewed and photographed working-class Rockbridge area residents. The other was her honors thesis, “The Farm,” which has to do with memory, image, and remembrance of the past at her aunt and uncle’s dairy farm near Wirtz, Virginia.

Anderson, who majored in English, rhetoric, and humanistic studies, presented the results of her work at the VMI Center for Undergraduate Research’s annual symposium, held April 18.

Anderson explained that she’d had little experience with photography before taking a photography class her 2<sup>nd</sup> Class year with Col. Rob McDonald, associate dean for academic affairs and a member of the English department faculty.

Encouraged by that experience, and intrigued with the black-and-white images made by well-known Lexington photographer Sally Mann, Anderson set out in the summer of 2017 to photograph the people of Lexington—but not the high-profile citizens whose names are known to many. Instead, Anderson sought the people behind the scenes, who might otherwise be overlooked.



Tim Moliterno poses in one of Carlee Anderson’s ’18 portraits.—*Photo courtesy of Carlee Anderson ’18.*

The project turned out to be much more difficult than Anderson had foreseen, because getting people to open up to her was not an easy task. “What I learned about myself this summer is that I’m a people person, but I’m not a people person,” she commented. “I didn’t like being told ‘no.’”

Despite the turn-downs, Anderson found enough will-

ing subjects to fill her online photo book with striking images and quotes from the people she’d met.

“The portraits are amazing,” said McDonald, who advised Anderson both for the SURI project and her thesis. “There’s a gift to be able to make those photos, and I don’t personally have it.”

This academic year, Anderson has been hard at work on her thesis, which uses photography in an old barn to explore the history that’s hidden just under the surface there. What is now her aunt and uncle’s farm was once a plantation—and the birthplace of Booker T. Washington, the famed African-American author and orator. Washington was born into slavery circa 1856 near what is now Smith Mountain Lake, Virginia.

“Basically, my project is kind of unpacking that idea of myself, the farm, and its past and how I came as a young child to where I am now—the old and the new and how they come together and how we can enjoy the space without feeling guilty, without feeling that dark dense history of it,” said Anderson.

To create the images accompanying her thesis, Anderson took pictures of the generations’ worth of accumulated family possessions stored in the barn. “It’s symbolic of other times and other ways,” she said.

Now looking to earn a master’s in business administration, Anderson is thankful for the writing and critical thinking skills she’s developed over the past four years.

“The best thing I’ve gotten out of VMI is my English major,” she commented.

— Mary Price



Sunlight creates interesting patterns in an old barn in one of Carlee Anderson’s photographs for her SURI project.—*Photo courtesy of Carlee Anderson ’18.*



# Institute Staff Works to Mitigate Concussion Risk

By Mary Price

Over the past decade, both researchers and the general public have learned more about the health risks associated with concussion, a form of traumatic brain injury caused by a blow to the head. While most individuals recover with no long-term health effects, the injury can cause changes in brain wave patterns lasting for years, resulting in attention problems.

At VMI, efforts to prevent concussion have been ongoing for some time, with policies such as required helmet use for many contact sports, but Dr. David Copeland, Institute physician, is spearheading an effort to improve VMI's response when a concussion occurs.

Copeland recently learned more about concussion when he attended the NCAA-U.S. Department of Defense Grand Alliance Concussion Conference, held April 20 in West Point, New York. The gathering was designed to educate athletic trainers, team physicians, sports medicine clinicians, and others about the latest research on diagnosing and treating concussions.

At VMI, approximately 60 to 70 cadets suffer concussions each year, with the numbers split fairly evenly between NCAA athletes and the rest of the Corps. For NCAA athletes, a strict protocol governs when they can return to play and return to learn—resuming their regular load of academics.

All athletic trainers who witness or learn of a concussion must report the athlete and his or her symptoms to Copeland or to Jenny Crance, nurse practitioner. A staff member or fellow cadet accompanies the injured athlete to the infirmary where they are then walked through a post-concussion symptom score sheet, a one-page sheet that lists 22 possible concussion symptoms.

Diagnosis of concussion is difficult, Copeland explained, because no blood test, X-ray, or MRI can reveal whether or not someone has had a concussion. Instead, diagnosis is made on the basis of symptoms, which can include but are not limited to headaches, blurry vision, nausea and vomiting, and feeling groggy or slow.

"A concussion is not an event," Copeland said. "It's a process."

What's more, no two concussions are the same. "Every concussion is different, and they are very difficult to diagnose," the doctor remarked.

Research has shown, Copeland noted, that only 50 percent of reported concussions are actually concussions. Thirty percent are probable concussions, and 20 percent are possible concussions.

These evaluations are critical, explained Lance Fujiwara, associate athletic director for sports medicine, because often, an athlete

with a concussion looks exactly like an athlete without one.

At the infirmary, either Copeland or Crance will diagnose the concussion and keep the injured athlete there overnight to monitor his or her progress. The concussion evaluation is repeated each day until the athlete has been symptom free for 24 hours.

At that point, Fujiwara said, efforts begin to see if the athlete can tolerate exercise. The exercise tolerance test consists of riding a stationary bike and keeping the athlete's heart rate above 140 beats per minute for 10 minutes. If no symptoms return, then the amount of exercise is gradually increased each day.

Before returning to play, an athlete must retake the ImpACT concussion test, a neuro-cognitive assessment that each NCAA athlete takes at the beginning of the academic year to provide a baseline. An athlete will only be cleared to return to play by Copeland when he or she has passed the ImpACT test.

Fujiwara noted, though, that the ImpACT is not perfect.

"Whenever you talk to someone about concussions, they talk about this toolbox," he said. "We have a lot of tools in our toolbox—the evaluation, the symptom scoresheet, the in-person evaluation is very important. And then we have the ImpACT."

But for non-NCAA athletes, there is no such guidance. Copeland would like to see that changed.

"I'm interested in monitoring and improving the care of our non-athletes, so they have the same care as our NCAA athletes," he stated. "I'm going to make some recommendations to people in charge to see what we can do to get a more formal process for non-athletes as well as for athletes."

Among new cadets in particular, a high stress level makes it hard to tell whether someone has suffered a brain injury or is just run down from stress and lack of sleep.

Even when a cadet has definitely suffered a concussion, it's impossible to tell how long he or she might take to fully recover—some are back to full functioning in days, and others take months.

Cadets who lose consciousness as a result of a concussion are taken to Carillion Stonewall Jackson Hospital for a CAT scan. For the vast majority who do not lose



Rats wear helmets to prevent concussions while fighting with pugil sticks during Rat Olympics—a physical education department event held in the fall.—VMI File Photo by H. Lockwood McLaughlin.



consciousness but still display concussion symptoms, Copeland keeps them in the infirmary overnight—and he often keeps rats longer, as he knows barracks isn't an easy place to rest.

Rats who've suffered a concussion wear a red tag on their shirts with the word "Concussion" and a list of restricted activities on it.

If cadets feel well, they are often allowed to return to class as soon as they feel ready, but with the stipulation not to push themselves. "We're getting better at giving concussed cadets a couple of weeks of temporary academic accommodation," said Copeland. "A lot of people can't function academically—can't concentrate."

And while Copeland would like to see zero concussions going forward, he is realistic enough to know this won't happen. "We have 1,700 active young people doing things," he said. "You're going to get concussions." 🦋



Rats wear safety gear, including helmets, while climbing the high ropes course during Rat Challenge this fall. —VMI File Photo by Kelly Nye.



## New Market Parade

The Corps of Cadets honors the cadets killed in the Battle of New Market and all alumni killed in action since the Institute's founding during the New Market Ceremony and Parade May 15. Retired Air Force Chief of Staff Gen. John P. Jumper '66 received the New Market Medal—VMI's highest honor—during the ceremony. —VMI Photos by H. Lockwood McLaughlin and Maj. John Robertson IV.





# Study Examines Caloric Cost of the Rat Line

By Ashlie Walter

At the end of the Rat Line, cadets are definitely more physically fit, but at what cost? According to a research project helmed by Bethany King '18 and Capt. Katie Baur, physical education instructor, the answer includes an average weight loss of four pounds, substantial caloric deficiencies, and a lack of sleep.

The pair recruited 15 male cadets and measured what they ate, how much they exercised, and the number of hours slept during their first semester at VMI. To measure the number of calories burned off during exercise and hours slept, the cadets were given Polar M200 fitness trackers.

Calories eaten were measured by pictures taken of all their food. The rats were also given a fitness test before and after the semester.

"We found some good things. Significantly, the caloric deficit during Hell Week," King said of the days following Matriculation. "Rats weren't in an optimal state of training, they were in a catabolic state and they lost weight because of this."

Those rats also lost muscle mass, not fat, which could reduce the amount of optimal training, Baur said.

On average, the participants burned about 4,500 calories daily over the eight days following Matriculation and an average of 6,500 calories on the three toughest days. Despite consuming about 3,700 calories on average, they were still burning more than they were eating. That imbalance was lessened as the semester went on.



Rats charge a hill on North Post during Rat Crucible, one of the most physically demanding days of Matriculation Week.—VMI File Photo by Kelly Nye.

The two points in time when the data from the trackers was collected was after Matriculation Week and again in late October and early November. The rats lost a significant amount of weight during the first interval. The losses proved to be temporary.

"It seemed Hell Week was intense but it corrected itself. They gained the weight back," King said.

Baur noted that though their protein intake was on target, their carbohydrate intake was low for the amount of training they were



Bethany King '18 presents her poster on the Rat Line caloric study during the undergraduate research symposium April 18.—VMI Photo by H. Lockwood McLaughlin.

doing. The optimal ratio for carbohydrate intake for athletes is 60 to 70 percent of calories, while the rats were getting an average of 53 percent.

While the rats were learning to adapt to their new routine, King said she was learning how to conduct the research and adapt to the unexpected.

"We planned and planned but something always came up. We originally had a schedule for them to charge the watches but we had to track some people down because these are human subjects," King said.

Baur added the hardest part was working around VMI's strict schedule. The rats came in when they had time to do the treadmill fitness test, while at other colleges the optimal research method would dictate subjects take the test first thing in the morning.

As for sleep, the trackers noted an average of only six hours of sleep a night, which is less than the optimal seven to nine hours for their age group, King said.

"We can speculate that the structure here was a factor, especially during Hell Week. They are up at 5:30 a.m., going nonstop until 10:30 p.m. or 11 p.m. Even when they start classes, the rats are up at 6:15 a.m. for chores and they go to bed at TAPS at 11:30 p.m.," King said.

The study did find the rats experienced significant improvements in cardiorespiratory fitness.

King said they still have other parts of the study to wrap up, such as a questionnaire to all study participants on their satisfaction with the food they ate and any injuries or illness they endured. Once completed, they hope to publish their findings. Also in the future, Baur said she hopes to continue the study but with only athletes, women, or look at just the caloric cost of Matriculation Week.

The researchers noted that one goal of the strenuous Rat Line is not just to improve the rats' fitness but to test them mentally.

"There are other goals of the Rat Line, not just getting them physically fit," Baur said. ❁



# POST BRIEFS

## Jackson-Hope Grants Announced

Two research projects featuring autonomous cars and low-cost satellites received grants from the Jackson-Hope Grants for New Directions in Teaching and Research. Lt. Col. Wakeel Idewu, associate professor of civil engineering, Col. David Livingston, professor of electrical and computer engineering, and Maj. Hongbo Zhang, assistant professor of computer science, received a \$75,000 grant to work on two autonomous vehicles. The interdisciplinary project will build autonomous golf cart-sized vehicles, and cadet researchers will learn artificial intelligence and sensing technologies in the field. Col. Joe Blandino, professor of mechanical

engineering, received a \$82,800 grant to develop a CubeSat Research and Development Laboratory. CubeSats are miniaturized spacecraft which are relatively low-cost to develop. Mechanical engineering cadets will be able to design, simulate, construct, and test the CubeSats. The Jackson-Hope Grants for New Directions in Teaching and Research was created to annually fund a wide variety of teaching and research activities. Proposals are reviewed by the academic planning and review committee of the academic board with recommendations to the dean and the Jackson-Hope Board of Overseers.

## Wittgenstein Scholars Discuss Current Philosophy Works

Seven philosophy professors gathered at Virginia Military Institute April 14-15 for the 8<sup>th</sup> Regional Wittgenstein Workshop. The workshop, named after philosopher Ludwig Wittgenstein, is the second to be held at VMI. It's an opportunity for people to share works in progress and get useful feedback. "Not everyone agreed on everything, but no punches were thrown," said Dr. Duncan Richter, professor of English, rhetoric and humanistic studies and organizer of the workshop. The highlight this year was participation

from Cora Diamond, Kenan professor emerita of philosophy at the University of Virginia and the author of *The Realistic Spirit: Wittgenstein, Philosophy, and the Mind*. Richter noted it was nice for Diamond to attend since she was his dissertation adviser. He noted many participants came from all over the country, including Michigan and Georgia. Richter said it's a good opportunity to catch up with everyone since the workshop is only held every 18 months. ❧

## World War I Conference

World War I Commemorative Symposium attendees visit the Profiles of Honor mobile tour parked near the Center for Leadership and Ethics April 27-28. The event—hosted by the CLE—included speakers Rob Dalessandro '80, Lt. Col. Eric Osborne, Col. Keith Gibson '77, and Col. David Gray. Conference attendees were also able to visit the Woodrow Wilson Museum in Staunton.—VMI  
Photos by Stephen Hanes.



# 'All Leadership Is Practiced'

## Over 60 Percent of Graduates Commission into the Armed Forces

By Mary Price



Clayton Whitaker '18 takes his commissioning oath in Cameron Hall May 15.—VMI Photo by Kelly Nye.

For many of the approximately 200 young men and women who commissioned into the armed services May 15, military service has been a lifetime goal. Others didn't discover their calling to the military until after they arrived at VMI. What binds them together, though, is a desire to serve and protect.

Air Force 2<sup>nd</sup> Lt. Tristan Silverstorf '18 had wanted to serve in the military since an early age—with the goal of becoming a pilot in the Air Force. As high school ended, his parents suggested that he come to VMI for an overnight visit, and that was all it took to sell Silverstorf on the Institute.

"I liked the way everyone interacted," he commented. "I liked the structure."

Silverstorf came to VMI without an ROTC scholarship, but thanks to his grades and physical fitness scores, he was awarded the commander's scholarship his first year, and, two years later, he received the Capt. Paul Bayliss 1960 Memorial Scholarship.

The scholarship, given by the Class of 1960 in memory of Bayliss, who was killed in action in Southeast Asia in 1966, is awarded annually to an Air Force ROTC cadet pursuing a commission to become a pilot or combat systems officer.

Earlier this year, Silverstorf passed his pre-flight physical, assuring him of a pilot's slot.

He'd earned his private pilot's license the summer before his 2<sup>nd</sup> Class year, which means he'll bypass some of the Air Force's rudimentary flight training.

"I really can't complain at all," said Silverstorf of his good fortune. "Everything's come together."

Silverstorf also had the opportunity to hone his leadership skills, serving as wing commander, the highest Air Force ROTC cadet rank, during the spring semester. He also served as the executive officer for Company B this year.

"Just learning the difference between micromanaging and overseeing has been really good," he noted. "It's something that a lot of people my age don't get to work on. I work with the officers a lot and they kind of treat me like an officer ... It's realistically what to expect in the Air Force, which has been really beneficial."

As the days ticked down toward graduation, Silverstorf said that he was mostly looking forward to taking to the skies as an Air Force officer.

"I'll be working with people who are passionate about the same thing," he commented. "I think it'll be kind of a refresher to be in a different environment."

Like Silverstorf, Marine Corps 2<sup>nd</sup> Lt. Clayton Whitaker '18 was drawn to VMI by the strength of the Institute's ROTC programs. Because his father was once in the Marine Corps, Whitaker chose to pursue a commission in that the service and earned a scholarship during his 3<sup>rd</sup> Class year.

Also during his 3<sup>rd</sup> Class year, Whitaker switched majors from international studies to civil engineering, thinking that a STEM major would give him not only a better chance at a scholarship but more job security down the road.

"It's taught me extremely good time management skills," said

Whitaker of having to do four years' worth of work in three. "It's taught me to appreciate any time I have to myself and to use my time very wisely."

Whitaker took advantage of many of the opportunities that VMI provided for leadership. He served as a cadre corporal for Company F during his 3<sup>rd</sup> Class year, and as a cadre master sergeant for that company during his 2<sup>nd</sup> Class year.



Tristan Silverstorf '18 has his rank insignia pinned on by his family during the Air Force commissioning ceremony in Memorial Garden May 15.—VMI Photo by Ashlie Walter.



This academic year, he was company executive officer for Marine Corps ROTC.

"It's taught me that communication is vital to the function of any organization, large or small," he said. "Communication and tact—being able to communicate your point to somebody, and sometimes even making them do what you want them to do without them realizing it."

Whitaker also had an important insight over his four years at VMI. "All leadership is practiced," he said. "It's nothing you are born with."

Whitaker is now eager to put those leadership skills to use with young Marines.

"I want to invest in my Marines and help them out as best I can," he said. "Being a mentor, being there for them—more so servant leadership than anything else."

Army 2<sup>nd</sup> Lt. Matthew Kenkel '18 is eager to serve as a field artillery officer. Unlike many of his Brother Rats, Kenkel had always known about VMI—because he'd been coming to reunions and parades with his father, James Kenkel '84, since he was a young child. This year, Kenkel wore the same belt that his father wore while he was a cadet.

"From a very young age, I had this seed of VMI planted in my brain," said Kenkel. "VMI was the only school I applied to when it came time to apply to college."

When he applied to the Institute, Kenkel put down history as his major—but on matriculation day, he made a last-minute switch to modern languages and cultures when he discovered that VMI was starting a Chinese language program. He also completed a minor in Asian studies.

"I thought it would be an interesting challenge," said Kenkel of his major. He had high praise for the Institute's Chinese language faculty, and the small class sizes in the major.

During his cadetship, Kenkel traveled to China not once but twice. He also studied abroad in Lithuania during his 3<sup>rd</sup> Class year. Once he completes two required training sessions, he'll be stationed with the Army in Bavaria, Germany.

"I'm looking forward to using the skills VMI has taught me—and finally be able to get out and use the leadership skills," said Kenkel of his upcoming Army service.

"The whole system at VMI—the academics, the Rat Line, the class system—it's all just a ton of pressure that's designed to test you in different ways. It teaches you to be calm and make decisions." ✱

## 'I Wanted to Be Better'

### Navy Ensign Perseveres, Gets Ship Assignment of Choice

For Ensign Angeleah Haseltine '18, the path to VMI, and to the Navy as a surface warfare officer, was anything but smooth. Adopted with her two younger siblings out of an unstable family situation when she was 4 years old, Haseltine learned from an early age that perseverance is the key to overcoming adversity.

During her rat year at VMI, Haseltine struggled with her grades and with a succession of health issues. There were days when the obstacles seemed overwhelming, but Haseltine refused to quit.

"It hit me very hard that my high school didn't prepare me well for the academics here," she said. "Going through all that, and still getting through it, has just told me, 'If I can get through that, and if I can make it through this school in four years, I can get through almost anything.'"

During those days, Haseltine also remembered that during the Rat Line, a member of the cadre had asked her and others why they'd come to VMI—and had pushed for a bedrock answer. Haseltine knew hers right away: "Ultimately, I wanted to be better than the life I was born into."

Haseltine also stuck it out with Navy ROTC, where she'd come in with a four-year scholarship. Last summer, her post-VMI future was sealed when she performed admirably during her 1<sup>st</sup> Class cruise, a requirement for Navy commissioning.

On her first trip outside of the United States, Haseltine flew to Crete where she and other midshipmen were picked up by the *USS Carney*, an Arleigh Burke-class destroyer.

As the ship journeyed through the Mediterranean Sea en route to its home port of Rota, Spain, supplies were running low, so it was time for an underway replenishment—a procedure in which a cargo ship comes alongside the Navy vessel and goods are transferred from one ship to another via ropes.

Haseltine and another midshipman were each assigned to take a turn giving orders to the enlisted personnel steering the ship—a mission fraught with peril because an error could result in damage to

potentially hazardous cargo. Haseltine grew increasingly nervous watching the other midshipman struggle with this task. When her turn arrived, she tried to remember all she'd learned using the ship simulator in Norfolk, Virginia.

"After about three to five minutes [the executive officer] says, 'Okay, you got it,'" and leaves," Haseltine recalled.

At first, Haseltine wasn't sure how well she'd done. Later in the day, though, she found out she'd been assigned to the same task for two shifts each day. After coming back to VMI, she found out right before Christmas that the ship's commander had selected her as a permanent member of the *Carney's* crew.

Of her time at VMI, Haseltine said, "It's been a hard process but it's been the most fulfilling thing I've ever done in my life."

— Mary Price



Angeleah Haseltine '18

# Model UN Club Hosts Conference for Area Students

By Ashlie Walter

After a long-planned trip for a conference in the fall at West Point, VMI's Model United Nations club decided to create its own conference.

In April, the club, led by Vera Heuer, assistant professor in the Department of International Studies, hosted 25 local high school students for the two-day conference in Scott Shipp Hall.

The conference opened with remarks from Paul Hebert '68, who worked at the UN for 17 years and is currently the Floyd D. Gottwald '63 Visiting Professor in Leadership and Ethics in the Department of International Studies.

There was always a goal of hosting a Model UN conference for area high school students, but last year was when the plan was put into motion, said Quinn Conrad '19.

"I think it's cool for us. We had always gone to conferences and participated, but now, on the other side, we had to take a step back and work with multiple pieces," Conrad said.

They modeled the conferences after the ones they had attended in the past. Each student who attended was given a country to represent during a simulation that was constantly evolving.

To start, they were to envision a conflict between India and Pakistan in Kashmir in 2025. Minerals were found in the state that could be used for weapons, technologies, and



High school students receive a tour of VMI upon arriving for the Model UN conference on April 28.—VMI Photo by Kelly Nye.



Area high school students participate in Model UN hosted by VMI's Model UN club in Scott Shipp Hall April 28.—VMI Photo by Stephen Hanes.

computers. Terrorist attacks and diplomatic challenges followed.

"We wanted to make a lot of the crises as organic as possible; they move troops to one area, what effect does that have on refugees?" said Emmanuel Ocampo '19, who helped organize the conference.

Ocampo received fourth place at last year's U.S. Military Academy Model UN conference.

He said the high school students' debate skills were good but it showed they were not expecting a "high level military situation." Many would raise their hand before speaking, like in school not a UN meeting.

The club hopes to have another high school conference next year but expand the participant pool to schools outside the county. 🌿

## Fishing Club Award

Natural Bridge State Park rangers thanked members of the VMI Fishing Club April 24 in Jackson Memorial Hall for their clean-up efforts in the park—a service project that took place during Field Training Exercises. The rangers presented the cadets with challenge coins as a sign of their appreciation.—VMI Photos by H. Lockwood McLaughlin.





# Cadets Share International Travels, Culture

By Ashlie Walter

Kennedy Smith '18 would have never had the experience of discussing national security and global terrorism in the mountains of Nepal if it were not for Virginia Military Institutes' study abroad programs.

Smith traveled to Nepal in the summer of 2017 and trekked almost 25 miles a day during the 14-day trip while reaching 26,000 feet in elevation.

Her story was one of many on display during the international studies department's first ever International Awareness Week in April.

Maj. Abbey Carrico, assistant professor of modern languages and cultures, organized the annual Modern Language Poetry Night, which was part of International Awareness Week this year.

"It is always a pleasure to hear the beauty and potency of poetry through its rhythm and rhyme, even when the language itself is not understood by all who are present," she said.

Cadets and faculty recited poems and other original pieces in languages ranging from Arabic to German.

Carrico added that VMI regularly produces leaders in the community, but it is only through interactions with those from other cultures can any dialogue or understanding occur.

"The international opportunities VMI supports offer cadets a chance to mature in their interpersonal communication as well as grow intellectually and as leaders," she said.

Col. David Hall '83, director of international programs, said VMI's international week is a spinoff of a joint project between the U.S. Department of State and Department of Education called International Education Week.

Mia Castelveter '18 took the initiative to organize and recruit participants for the week, including 25

study abroad alumni representing 25 different countries, Hall said.

Their showcases took multiple forms, from presentations in Jackson Memorial Hall to information tables in Crozet during meals and the poetry night.

Along with Smith, Benjamin Fields '18 was at one of the information tables in Crozet presenting pictures from his study abroad trip to Prague. He said he always wanted to travel but couldn't necessarily afford it.

"I had the full immersion of European culture, Czech culture, and historic architecture," Fields said.

Learning new cultures, different from America's, is the whole purpose of the study abroad programs.

"The world our graduates will live and work in is becoming increasingly interconnected, and one could argue, increasingly interdependent. Therefore, it behooves us as an institution of higher education to ensure they are prepared for the challenges that come with that environment," Hall said. ❁



Cadets dine on multicultural food during Modern Language Poetry Night in the Turman Room of the Preston Library April 25.—VMI Photo by Ashlie Walter.



Cadets participate in Modern Language Poetry Night in Preston Library April 25.—VMI Photo by Ashlie Walter.

## Class of 2018 *continued from page 5*

By the time he graduated with a major in biology and minor in exercise science, Eagle's grade point average was closing in on the 3.0 mark. He'd made the Dean's List three times and missed it by a hair's breadth twice.

But Eagle's time at the Institute wasn't all about baseball and studying. He managed to find time to give back, mentoring local school children through the Character Counts program.

"I love mentoring and helping kids," he stated.

Unlike Smith and Eagle, Steve Reibach was already 21 when he entered VMI—and with two years of service in a foreign military under his belt.

The Pittsburgh, Pennsylvania, native served in the Israel Defense Forces as a foreign volunteer from 2012 to 2014, after spending a year at the University of Pittsburgh and realizing it wasn't for him.

"I didn't want to waste money fooling around without any certainty," said Reibach. "It just seemed like a good opportunity to gain some perspective and help the state of Israel."

Reibach came to that decision with proficiency in Hebrew and an understanding of his faith—he'd been to Hebrew school growing up and had attended a Jewish summer camp for many years. He'd even been to Israel in high school as part of camp counselor training.

During his time serving in a unit that was part of the Iron Dome, an air defense system meant to protect the state of Israel from missile attacks, Reibach learned an important life lesson: how to deal with bad

attitudes. Because Israel requires military service from both men and women, Reibach explained, not everyone is happy about being in the service.

"There's people there who don't want to be there," he noted. "It's not like the American military."

After leaving Israel, Reibach found his way to VMI, drawn by family ties. Reibach's uncle, Bob Reibach '77, had told his nephew about the school, and Reibach's father graduated from neighboring Washington and Lee University. The family had visited Lexington while Steve

Reibach was growing up, so he'd been to exposed to both schools.

Once he'd matriculated, Reibach tried to keep his background quiet, not wanting to draw attention to himself, but word spread quickly.

"The Rat Line—it wasn't easy but it wasn't hard compared to training in the IDF," he commented. "I was the rat who served in the IDF. If anything, it helped me. My cadre sort of respected that."

After graduation, Reibach plans to re-enlist in the IDF and hopefully attend an officer's course. ✱

### Institute Awards

Paul Conteh '18 is presented with the New Market Legacy Award during the Institute Awards Ceremony in Cameron Hall May 14. Cadets, faculty, and staff were recognized for their 2017-18 academic year accomplishments during the ceremony. Awards were presented for distinguished graduates, departmental research awards, scholarships, and distinguished service to the Institute.—

*VMI Photo by Kelly Nye.*

