



# INSTITUTE REPORT

VIRGINIA MILITARY INSTITUTE  
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## Valedictorian Humbled by Respect, Support

By Mary Price

In just over two decades of living, Marine Corps 2<sup>nd</sup> Lt. Drew Borinstein '17 has experienced more tragedy and wrenching loss than many do in a lifetime – and yet he never wavered in striving for his goals.

On May 15, less than a year after losing most of his immediate family in a plane crash, Borinstein fulfilled his dream of commissioning in the Marine Corps. The next day, he addressed the Class of 2017 as its valedictorian and received the first Jackson-Hope Medal for highest attainment in scholarship.

In his remarks at graduation, Borinstein urged his fellow graduates to hold onto the ideals that the Institute has taught them.

“VMI has molded us to embrace concepts that are contrary to what we see in the world around us,” said Borinstein. “In an increasingly sensitive world, VMI has made us durable. In a chaotic world, even keeled. In a self-centered world, selfless. And in a dishonest world, honorable. ... Our world is desperate for leaders with real honor and integrity.”



Drew Borinstein '17 addresses the crowd in Cameron Hall during the graduation ceremony on May 16. – VMI Photo by H. Lockwood McLaughlin.

A distinguished graduate with Institute Honors who maintained a 4.0 grade point average, Borinstein urged his fellow

*See Valedictorian, page 8*

## Class Advisers Guide Cadets from Rat Line to Graduation

By Mary Price

They're quietly on standby the majority of the time, but their behind-the-scenes role is a vital one. Over the course of an academic year, class advisers meet with class officers to plan milestone events such as Ring Figure, accompany accused cadets to honor court trials, and generally serve as sounding boards for class-wide concerns.

It's a big commitment and a long relationship, as each faculty adviser stays with his or her class until the members of that class graduate and join the ranks of alumni.

On May 16, Col. Sam Allen, professor of economics and business, saw the circle close as the once-new and nervous 4<sup>th</sup> Class cadets he'd met at matriculation four years earlier crossed the stage to

receive their diplomas. As the faculty adviser to the Class of 2017, Allen had the role of leading them out onto the floor of Cameron Hall for the graduation ceremony.

“I didn't drop any tears, but I was excited,” he commented. “It was fun to lead them out. They all had plenty to be proud of. They walked with a sense of accomplishment.”

As Allen watched Hamp Beddoes, the class president, introduce the graduation speaker, Gen. John P. Jumper '66, he remembered seeing Beddoes as a 4<sup>th</sup> Class cadet, and was able to see a different young man up on the stage in front of his peers.

*See Cadet Advisers, page 16*

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Header photo on page 1 by  
Maj. John Robertson IV

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## 'We Just Like to Help People' Physical Plant Staff Build for One Another

By H. Lockwood McLaughlin

One day in late April, a dozen physical plant staff members helped to re-shingle the house of their coworker, trades technician and carpenter Gleonard "Buddy" Lawhorn.

The schedule was set for the work to be done over a two-day period at the Buena Vista house, but the team pulled together, finishing the roof in a single day. Funds were raised through churches and charitable donations of the physical plant staff. The project was also sponsored by the Natural Bridge Volunteer Fire Department.

Members of the team arrived around 6:30 a.m. and started work at about 7 a.m. By 4:30 p.m., they had new fascia board up and new shingles covering the entire roof.

"It really went fast," said Lawhorn, who has been an employee of the Institute since 1998. "All in one day."

April's project was part of a continuing effort by physical plant employees to serve one another.

"We just like to help people," said John Painter, motor pool supervisor. "We try to help somebody every year or so." Previously, the P2 staff helped Lawhorn's brother prepare for winter by helping to cut firewood.

"I've worked in a lot of different places but these men right here, the ones that you



Physical plant members reshingle the roof of Buddy Lawhorn in Buena Vista on April 28. – VMI Photo by H. Lockwood McLaughlin.

saw up on the roof, there are none better. I mean they're the best people in the world by far," said physical plant's locksmith and door programmer Thomas "Tommy" Tomlin.

"To take their time to come down here and do this – and they were going take their Saturday to come down here and work on this house – that's pretty big. That speaks for itself."

With his home's roof completed that day, Lawhorn was feeling thankful and appreciative.

"I feel great about it, and I can't say enough about the best coworkers. We're all the same, but we always end up helping one another when we need it. We'll be there, and in the same way, we feel that for our cadets." 🍷

### Salvage Dawgs

Mike Whiteside and Robert Kulp, along with the crew of the television show *Salvage Dawgs* return a barracks door to the VMI museum. The door is from the barracks room occupied by George C. Marshall during his time as a cadet at VMI. Black Dog Salvage, based in Roanoke, received a donation of old barracks doors that had been stored in a barn for decades. Thinking that the doors might be of some historical significance, Black Dog Salvage staff contacted VMI and offered to return the door identified with Marshall's room number. – VMI Photo by Kelly Nye.





# Cadets Learn to Beat Procrastination

By Ashlie Walter

For many cadets, the end of a semester means a rush to wrap up final projects, term papers, and essays.

To prevent that frenetic rush to complete projects at the last minute, the VMI Writing Center's biannual Night Against Procrastination is held late into the night during the week before exams. In addition, the center provides one-on-one tutoring sessions to help cadets work to their full potential.



Ryan Thorpe '19 helps Calle Biles '20 with a project during the Writing Center's Night Against Procrastination in April. - VMI Photo by H. Lockwood McLaughlin.

"Typically, cadets will come in with more traditional research papers. We can help with that, anywhere from brainstorming to polishing it up at the end. We don't proofread or edit, but we do help them help themselves," said Maj. Deidre Garriott, the Writing Center coordinator and the event's organizer.

Between 30 to 60 cadets attended the spring semester's Night Against Procrastination, held on April 27.



Maj. Josh Iddings gives project advice to Rachel Jankelow '17 during the Writing Center's Night Against Procrastination in April. - VMI Photo by H. Lockwood McLaughlin.

Among them was Kathleen Yates '20, who was looking for another perspective on the conclusion to her history report. So she turned to Night Against Procrastination. Garriott worked directly with Yates on creating a conclusion for her history paper.

"She didn't understand what a conclusion was supposed to do, wasn't sure what she needed. ... We flipped through her history textbook, to the last chapter and read the conclusion. She said 'oh, this is what a conclusion does,'" Garriott said.

She added Yates' "mind was blown" and all of a sudden, she understood the lessons in her other history classes and the implications across other classes.

Yates said she had attended the Night Against Procrastination in the fall semester and, based on that experience, returned to the spring semester's event.

"This was a history paper, but it was nice because you didn't have to make an appointment, you could just walk in and someone would help you," she said.

Yates also said she wasn't comfortable with the medium, so she was looking for help on "cleaning up" her writing.

She learned more about different writing styles and how to adapt in different subject areas during the event, a lesson she will use in future years at VMI.

"Cadets who have struggled in the past came to Night Against Procrastination, there's a lot of energy and a lot of us working. They have a connection with a consultant and get excited," Garriott said.

She said the center uses its staff, consultants with graduate degrees, as well as English department faculty members to help students with their projects.

The consultants also help cadets find research needed for a project and make sure the cadets are not "cherry picking sources." The center not only helps with term papers but also digital projects such as PowerPoint presentations, blog posts, podcasts, and video projects.

"We have a lot of ongoing training to make sure the staff keeps up," said Garriott.

Cadet Ryan Thorpe '19, one of the Writing Center's tutors, said the event is a good way for cadets to get ahead on assignments.

"During the semester, we get pretty busy," said Thorpe. "All the staff is here that night; they can just come in, get ahead on work and have free food."

At the event, he saw a lot of reflective essay papers from cadets as well as a few lab reports. Many of the cadets needed help with writing prompts or brainstorming.

Thorpe added that the event does a good job of opening a door for cadets into the resources offered at the writing center.

Garriott said she has already started planning for the next Night Against Procrastination and is planning future collaborations with the Academic Center, also in Carroll Hall.

During the rest of the year, the writing center can help cadets with job applications, cover letters and resumes. It also works directly with different departments, either showing its cadets how to use the writing center appointment system or serving as guest teachers during a few classes. 🌟

# 'Your Learning Has Only Started'

## 319 Receive Diplomas in 2017 Commencement Ceremony

By Mary Price

In commencement exercises held May 16 in Cameron Hall, 319 graduates of Virginia Military Institute were exhorted to live lives of character, honor, and service.

Over 300 members of the Class of 2017 received diplomas, with graduates who matriculated with other VMI classes making up the rest of those crossing the stage. By the end of the summer, 172 new graduates will have commissioned into the armed services, representing 54 percent of this year's graduates.

Gen. J.H. Binford Peay III '62, Institute superintendent, told those graduating that they must keep learning as they enter a complex and rapidly changing world. "Stay informed," said Peay. "Stay clear-headed. Be inquisitive. Stay informed about the challenges facing whatever community that you live in."

Peay also reminded this year's graduates to hold onto the concept of honor that the Institute strives so hard to inculcate. "People will hold you to a higher standard because you are a VMI graduate," he stated.

Introducing this year's graduation speaker, Gen. John P. Jumper '66, chairman of the VMI Board of Visitors, was Hamp Beddoes, president of the Class of 2017.

Before ceding the floor to Jumper, Beddoes took a moment to reminisce about the hardships of VMI that have forged such a strong bond among the graduates.

"I've heard this saying my entire cadetship but I've never really believed it until now: you spend all four years trying as hard as



Three-hundred and nineteen cadets toss their gloves in the air after being dismissed from duty during the graduation ceremony in Cameron Hall on May 16. – VMI Photo by Maj. John Robertson IV.

you can to get away from this place and the rest of your life trying to come back," said Beddoes.

With this sentiment in mind, Beddoes advised the underclass cadets in attendance to remember that the people are what make a place, and that their time at VMI is fleeting.

"You're never too busy to throw the football with your friends," Beddoes stated. "In the end, it's the relationships that you'll remember the most."

Jumper, who retired from the Air Force after a 39-year career that included a stint as Air Force chief of staff, told the graduates, "Your learning has only started."

In particular, Jumper urged those graduating to study and learn the lessons of history. He quoted the Pulitzer Prize-winning historian David McCullough as saying, "We cannot know where we are going unless we understand where we have been."

With that sentiment in mind, Jumper gave his listeners a brief historical review of the events of World War I and World War II, as well as the American Revolution. He encouraged the graduates to visit sites such as the Normandy beaches where the D-Day invasion occurred, as a sense of history is palpable



Gen. John P. Jumper '66 addresses the graduates in Cameron Hall on May 16. – VMI Photo by H. Lockwood McLaughlin.



there. He also recommended that they read and appreciate documents such as the Constitution and the Declaration of Independence.

“Today when you cross the stage, recognize that it’s not a finish line,” said Jumper, who went on to become chairman and CEO of the defense contractor SAIC after retiring from the military. “It’s a starting line.”

And as the new graduates move out into the world, Jumper encouraged them to carry the core values of VMI with them.

“The nation and the world are begging for the values you are equipped to deliver,” he said. “Do not let us down. ... Be selfless. Look for the greater good. Strive to be part of something bigger than yourself.”

Three awards were presented during the commencement ceremony.

The first Jackson-Hope Medal for the highest attainment in scholarship and the Cmdr. Harry Millard Mason Academic Proficiency Award were presented to Marine Corps 2<sup>nd</sup> Lt. Drew Borinstein. Borinstein, who maintained a 4.0 grade point average, graduated with a major in applied mathematics and a minor in business.

The second Jackson-Hope Medal for second highest attainment in scholarship and the Col. Sterling Murray Heflin 1916 Academic Proficiency Award were presented to Army 2<sup>nd</sup> Lt. Austin Bajc. He graduated with a bachelor of arts in history, a minor in Asian studies, and a minor in national security.

The Society of the Cincinnati Medal for efficiency of service and excellence of character, along with the Richard J. Marshall and Sumter L. Lowry Awards, was presented to Army 2<sup>nd</sup> Lt. Luke Phillips. Phillips, who double majored in biology and chemistry, was the top ranked cadet in the nation in Army ROTC this year. 🇺🇸

## North Post Challenge

Cadets from each company compete against each other during North Post Challenge April 26-28. The event includes skeet shooting at McKethan Park, rifle and pistol shooting at the North Post firing range, and running the North Post obstacle course. Company A took first place with the best combined running times and shooting scores. – VMI  
Photos by H. Lockwood McLaughlin.



## Employee Wellness Fair

VMI employees enjoy the Wellness Fair in Marshall Hall on April 27. Medical screenings were provided by staff from Augusta Health, Lewis Gale Regional Health System, and Carillion Stonewall Jackson Hospital. Local fitness and counseling centers set up booths and Aramark served food samples. – VMI  
Photos by Kelly Nye.



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# 'Ninety-Nine Failures and One Success'

## Sustainable Fuels Research Teaches Chemistry Cadet Perseverance

By Mary Price

Jacob Hyde '17 is persistent to the end – so much so that he has continued the same research in the chemistry labs since the summer after his 4<sup>th</sup> Class year. His doggedness paid off in the form of breaking new ground for others to build upon, and the hope of seeing his name in print as an author of a journal article for not the first time but the third.

For over three years at VMI, Hyde worked alongside his faculty mentor, Maj. Dan Harrison '05, assistant professor of chemistry, to develop a catalyst that could work to reduce carbon dioxide into a more reactive carbon species and then a usable fuel that could someday replace fossil fuels.

It's an area of research that's been Harrison's professional focus ever since he completed a post-doctoral fellowship at the University of North Carolina at Chapel Hill in 2012, just before he arrived at VMI as a faculty member in January 2013.

"Basically, it's an elimination of carbon dioxide greenhouse gas through carbon capture," explained Hyde. "Specifically, what we're working on is testing the different electrochemical properties of these catalysts and seeing how we can modify the structure of these chemical compounds and the effects it confers on the efficiency and efficacy of the catalyst."

Harrison explained that to convert carbon dioxide into something else requires a catalyst to kick start the reaction, and in this case, the catalyst is one of the transition metals from the middle of the periodic table, a group that



Maj. Dan Harrison '05 and Jake Hyde '17 set up a specially designed, air-free, electrochemical cell containing one of Hyde's iron compounds. – VMI Photo by Kelly Nye.

includes manganese, chromium, iron, cobalt, and nickel.

"Metals serve multiple purposes," said Harrison. "One is to stabilize, and in fact effect the conversion, by lowering the energy required to reorganize the atoms around the carbon in carbon dioxide to make them carbon monoxide or other carbon fuels."

For Harrison, Hyde's persistence in this work has yielded insights he would not have gained otherwise, especially in understanding the behavior of the ligands – molecular fragments that serve as the core structural framework of larger, more complex molecule.



Jake Hyde '17 compares data for several of his compounds to quantify the electronic differences in the compounds. – VMI Photo by Kelly Nye.

"Jake's project is the first time here at VMI that I've had an understanding of how the ligands, which are sort of the scaffolding around the building, impact how the metal is going to behave," said Harrison.

Like many cadets before him, Hyde learned that research is most often not a smooth path to the finish line. "[Research] is one of the most challenging things that I do here, and also one of the most rewarding things that I do here," said Hyde, who commissioned into the Air Force May 15 and has received a deferral to attend dental school at Virginia Commonwealth University this fall.

Hyde added, "I love the challenge of problem-solving and that feeling of success that you get after 99 failures and one success. It's a very sweet sensation."

Hyde entered VMI as a chemistry major after falling in love with the subject in high school. "Fire and color always draws people into chemistry," he noted.

Perhaps unfortunately for his parents, Hyde had a penchant for at-home experiments as a youth, and he didn't shy away from the ones that could cause damage.

"My mom stopped me before I ever had to go to an emergency room, but we definitely lost some furniture," Hyde commented.

On a more serious note, he continued, "What I liked about chemistry is that it will explain day-to-day things that we take for granted, like why one flower is pink and another purple. Every little thing in life has a chemical explanation, and being able to look at that from the bottom up is very rewarding."

During his cadetship, Hyde was listed twice as a co-author of a published journal article – one in the *American Chemical Society Journal of Applied Materials & Interfaces* and the other in the *Journal of Visualized Experiments*. Both were published in 2015. Harrison hopes to submit Hyde's carbon dioxide reduction work for publication later this year, and this time, he plans to list Hyde as the primary author.

Over the past few years, Harrison has been rewarded by seeing his once-uncertain apprentice, then a newly minted 3<sup>rd</sup> Class cadet, develop into a scientist in his own right.



"We take [a cadet] in as an apprentice, teach them the ropes ... and eventually there's a point where there's a click, a switch goes off, and they change from an apprentice to a colleague," said Harrison, who plans to continue the project with current underclass cadets.

For Hyde, Harrison added, that switchover took place sometime midway through his 2<sup>nd</sup> Class year. At that point, Harrison knew that Hyde would be providing data that would guide the cadets working long after he'd graduated – and not only that, but serving

as an example to underclass cadets as well, thanks to his persistence and commitment.

"When I think about what we want a cadet to be, the principles to uphold as a chemist, Jake is the embodiment of those ideals," Harrison stated. ✂

## Cadet-Created Map Improves Visitor Experience

By Ashlie Walter

For first-time visitors to VMI, a static map on a computer screen might not help them find their way around post. That's why Brian Colitti '17 and Marc Howe '17 decided to create an interactive map for VMI's website as their senior capstone project.

"We thought it would be a great way to contribute to the professional image of VMI. Our inspiration is that we want VMI to remain as one of the top schools in the nation after we leave," Colitti said.

Their faculty advisor Maj. Sook Ha, assistant professor of computer and information sciences, offered up the idea to her capstone class and the two cadets volunteered to take it on.

Ha was a newcomer to VMI last year and it was hard for her to find a specific place on the static map, she said.

"I learned many universities have this type of map and visitors can use it. They can type the building name and find it on the map. We can make the same thing," she said.

The two decided to be partners on the project because they are in Air Force ROTC and the VMI computer and information science program together.

The first semester of the capstone is devoted to designing, creating a formal proposal and planning for the project. Colitti said they looked at other interactive maps and created a database of VMI building pictures and the histories on each building.

The second semester is when the cadets created the map using JavaScript and a mapmaking tool called "Mapplic."

When using the map, visitors will be able to click on each building and a pop-up box will show pictures of a building and a description of each building's history. In a search box, users can search by function and building name.

"It truly does feel awesome to have a map that everyone will use and see. It fulfills our motivation for doing this project in the first



Marc Howe '17 and Brian Colitti '17 put the final touches on an interactive map of post that will be used by visitors on VMI's website. – VMI Photo by Ashlie Walter.

place, which was to help people experience post in an online environment. We know that cadets, faculty, alumni, and visitors will all use this map to find information in a user-friendly environment," Colitti said.

Colitti's main role was learning how to present the map to users. Howe worked on creating the database for the information.

"Working in a team with our adviser was a great learning experience about how to handle large projects in small groups. Although we won't be working in the computer science field, this is a necessary skill for all jobs," Colitti said.

Both cadets are commissioning into the U.S. Air Force and will be headed to Laughlin Air Force Base in Texas after graduation this month.

Ha said she plans to collect user feedback on the map after the cadets graduate and may propose improvements to the map as another capstone project in a couple years.

"Mr. Colitti and Mr. Howe did a great job in developing a web application that provides useful information to VMI's public web audiences, especially prospective cadets and anyone planning to visit Post," said Lt. Col. Kate Crossman, director of online communications and branding.

"I imagine the map will help create a stronger sense of place to those who view the Post online while providing useful navigational help for those who visit in person," she said.

The map is available for public use at [map.vmi.edu](http://map.vmi.edu). ✂



A screenshot shows an interactive post map designed by Brian Colitti '17 and Marc Howe '17. The map is now available to the public on VMI's website. – Photo courtesy of Brian Colitti '17.

# An Uncommon Purpose Enters Its Final Month

By Scott Belliveau '83

*An Uncommon Purpose: A Glorious Past, A Brilliant Future: The Campaign for VMI* is now in its final month. There is no doubt that this effort has been exciting. Thousands of alumni, parents, friends, and members of VMI's outstanding faculty and staff have participated in the campaign.

They have lent their support to every facet of VMI's extraordinary education. This support has increased confidence throughout the VMI family that the Institute will be able to accomplish its mission, not only today but well into the future. Exciting, too, has been the steady progress of the campaign in terms of dollars raised and donors participating. As

of April 30, the campaign had received \$321.8 million from 15,125 donors.

"It's been exciting to see the enthusiasm catch hold of so many people," said Warren J. "Buddy" Bryan '71, the CEO of the VMI Foundation. "I have seen it happen with individuals who understand that this is an important moment in the Institute's history and want to make a difference. I have seen it among reunion classes who have come together in truly magnificent fashion and made enormous efforts to ensure a brilliant future for VMI."

"For those of us who have been involved with the campaign from its very beginning,"

said Bryan, "the past few months have been incredibly rewarding and exciting. We know that, in the end, this effort will mean so much to every future cadet. So, we are working tirelessly and making every effort to ensure the success of An Uncommon Purpose."

"In this final month, I encourage all who care deeply about VMI to become a part of this transformational campaign. I can promise you that it is an investment you will take pride in."

Information about the campaign – and the many opportunities that remain for supporting VMI – is available at its website [www.vmi.edu/campaign](http://www.vmi.edu/campaign) 🌟

## Valedictorian *continued from page 1*

graduates to realize that even as they celebrate their accomplishment of graduating from VMI, now is not the time to stop reaching higher.

"Now we need to press on toward bigger and better things," Borinstein said. "Don't let VMI be a high point. Go out and make a difference. ... Do what you can to make this world a better place."

A native of Shelbyville, Indiana, Borinstein didn't decide on VMI until his senior year of high school, and even then, it was his back-up school. He described being denied admission to the federal service academies as "a nice slice of humble pie that I needed."

But as a 4<sup>th</sup> Class cadet, Borinstein was still stinging from those rejection letters. "I was a pouty little baby coming here," he admitted.

That attitude changed, though, as Borinstein found his footing at the Institute, both academically and militarily. He switched majors from physics to applied mathematics, picked up a minor in business, and, after coming in on a Navy scholarship, found the Marine Corps more to his liking.

Borinstein also held rank in the Corps, serving as Company E commander his 1<sup>st</sup> Class year. "I've definitely learned to deal with different kinds of people," he noted. "You can't approach everyone the same way."

Borinstein also had the weighty responsibility of serving as one of his class's representatives on the Honor Court for the past three years. "That's definitely had a huge impact on my life, and it's definitely been very time-consuming," he commented. "It's a rewarding experience as well."

Borinstein was three quarters of his way through VMI, attending Marine Corps training at Quantico, Virginia, last August, when tragedy struck. His mother, brother, and sister all died when the private plane they were riding in crashed after aborting its landing at Shannon Airport near Fredericksburg, Virginia. His father, John Borinstein, had died the previous year.

Left to mourn their loss and carry on were Drew and his youngest brother, Beau, now 16.

"Honestly, it's given me a greater perspective," said Borinstein. "It's just given me a better view of the big picture and not getting so wrapped up into the short term goals, just taking a step back and enjoying the ride. I've never questioned my ambition, but I've always struggled with enjoying the time that I have."

Not surprisingly, Borinstein has experienced an outpouring of support over the past nine months. "It's been incredible," he said. "I get letters and packages from people I don't even know. It's just

been extremely comforting to have the support of people ... the network here, the VMI family is just a special group of people."

When he found out that he was going to be valedictorian, Borinstein was first in shock.

"I was more humbled than anything to see that I was well respected among the people in my class."

And what of that 4<sup>th</sup> Class cadet who was disappointed to attend his back-up school? "If I had to do it 10 times over, I would come to VMI again," Borinstein said. "I couldn't be more happy with how things worked out." 🌟



Drew Borinstein's grandmother and brother pin on his shoulder boards during the Marine Corps pin-on ceremony. – VMI Photo by Kelly Nye.



# POST BRIEFS

## Alerding Receives Soybean Research Grants

Lt. Col. Anne Alerding, associate professor of biology, has received two grants related to her work with soybeans. The first grant, "Identifying Competitive Sinks in Growing Branches to Improve Soybean Yield," came from the Virginia Soybean Board. In her research, Alerding is trying to identify trade-offs between branch growth and seed filling that influence the plant's decision



to allocate resources, as soybean plants are often stressed during hot and dry weather. The second grant, from the Jackson-Hope Fund, is for "Developing a Center for Quantitative Microscopy and Image Analysis at VMI to Support Applied STEM Research." While this technology has many potential applications, Alerding plans to develop image analysis procedures to segment soybean stems. Image analysis is a new field of computational research that incorporates aspects of computer science and mathematics to create specialized code (scripts) to analyze digital images quantitatively.

## ERHS Class Speaks with Novelist

U.S. Air Force Capt. Jesse Goolsby, a novelist and short story writer, joined an English, rhetoric, and humanistic studies class at Virginia Military Institute via Skype April 13 to talk about his work. Goolsby, an associate professor of English and fine arts at the U.S. Air Force Academy, is author of numerous short stories and the novel *I'd Walk with My Friends if I Could Find Them*, which is told through the experiences of three combat veterans.

The cadets in the class had recently read Goolsby's story, "Safety," which is included in *Best American Mystery Stories 2012*. In discussing how to combine an interest in writing with military service, Goolsby told the cadets, "My life is devoted to the profession of arms. What I've learned is that literature and compassion and empathy are all necessary aspects of the profession of arms."

## VMI Wins SERCAP Award

VMI won the Southeast Rural Community Assistance Project award at the organization's annual conference and luncheon, "Water Is Life," in Roanoke, Virginia, April 20. The award was accepted by Capt. Ned Riester '78, professor of civil and environmental engineering, and was given for

VMI engineering's recent service projects in Pearisburg, Virginia, and Key West, Florida. The conference brings together businesses and community organizations from across the southeast to promote access to clean water and encourage community service.

## CIS Faculty to Publish Research

Department of Computer and Information Sciences faculty research will be featured in upcoming publications. Maj. Youna Jung, assistant professor of computer and information sciences authored a manuscript, "Community-based Localized Disaster Response through Temporary Social Overlay Networks," which has been accepted for publication in the journal *Mobile*

*Networks and Applications*. Col. Mohammed Eltoweissy, professor of computer and information science, is co-authoring a book with colleagues from the U.S. and abroad on cyber security and resilience systems inspired by nature. The book will be published by the Institution of Engineering and Technology. 📖

## Old Yells

Alumni from the classes of 1942, 1947, 1952, 1957, 1962, 1967, 1977, 1987, and 1997 were on post for class reunions and joined the current Corps of Cadets in barracks for Old Yells April 25 and 29. The oldest alumnus to join the Corps in barracks was Charlie Miller '42, who donned his coatee for the occasion. – VMI Photos by H. Lockwood McLaughlin.



# 'The Luckiest End of the Stick'

## Commissioning Cadets Share Leadership Lessons from Institute and ROTC

By Mary Price

For many 1<sup>st</sup> Class cadets, ROTC commissioning is the fulfillment of a lifelong dream. While the branch of the service will differ, the motivation for military service often springs from a common thread: the desire to serve one's country while shouldering a challenging career. This year, approximately 160 cadets commissioned into the armed services in the commissioning ceremonies held May 15.

Brendan Dixon '17 was one of 16 members of the Class of 2017 to commission into the Marine Corps. For Dixon, becoming a Marine was as natural as breathing, as he'd dreamed of following in his father's footsteps since childhood. He and his sister, Kailey Dixon '18, grew up watching their father, Col. Christopher Dixon '90, advance in the Marine Corps and move all over the world. For a time, the family even lived in Iceland.

"We've been around the Marine Corps plenty – born and bred," said Brendan Dixon.

That early exposure fueled childhood fantasies of becoming a Marine himself. "Playing Marine or soldier in the back yard never leaves your heart," Dixon noted.

But his path to commissioning wasn't a straight or easy one. Dixon began his college years at Radford University, and he was only halfway through his freshman year there when, unbeknownst to him, his mother put in an application to VMI on his behalf.

"I pretty much owe being here at VMI to my mother, which is pretty amazing," Dixon

commented. "She just said, 'You need to do this.'"

Dixon had been offered an Army ROTC scholarship at Radford, but once he arrived at VMI, it was all Marine Corps, all of the way. During his cadetship, he threw himself into ROTC activities, plus holding rank in the Corps all three years. As a 2<sup>nd</sup> Class cadet, he was a Golf Company operations sergeant, and this year, he's the 2<sup>nd</sup> battalion commander.

"[Holding rank] broke me out of my shell as a human being," said Dixon. "I'm normally a quiet, reserved person. I don't have a lot to say. Now I can go speak in front of groups confidently."

And as the days ticked down toward commissioning and graduation, Dixon found himself pondering the soon-to-be fulfillment of his childhood dream.

"The Marine Corps is the most violent and beautiful organization on the planet," he said. "There is no better service on the planet, and I couldn't be any more proud to claim the title of a Marine."

Like Dixon, Rachel Tanner '17 didn't follow a seamless path to commissioning. Turned down for an Air Force scholarship during her senior year in high school, Tanner came to VMI anyway, and then, to her great surprise, was awarded a scholarship during her 3<sup>rd</sup> Class year. She was one of 14 cadets to commission into the Air Force this year.

For Tanner, commissioning in the Air Force had long been a goal because her father had served in that branch before she was born. When she was looking at colleges, she'd applied to and been accepted at two of the nation's senior military colleges, but found that VMI offered the best deal financially, while also satisfying her desire to stay close to home.



Approximately 160 cadets commission into the military during the joint commissioning ceremony in Cameron Hall on May 15. – VMI Photo by H. Lockwood McLaughlin.

During her cadetship, Tanner played club volleyball and was a member of the triathlon club. She also held rank in the Corps – and as a 2<sup>nd</sup> Class cadet, she became the first female master sergeant in VMI history. In that role, she was responsible for teaching drill and ceremony to 4<sup>th</sup> Class cadets.

From that experience, Tanner learned a valuable lesson.

"The influence you can have on someone is very poignant," she noted. "You don't realize what you say that other people will remember ... You realize how heavy your words are, and it can go either way. It can be for the good or the bad."

It was an awareness she carried with her whenever she went to lead 4<sup>th</sup> Class cadets, a group she realized was very impressionable.

"Whatever I said as a leader, they were going to take it and hold it at the core of whatever they thought of their experience here," she stated.

Intrigued by the workings of the human mind, Tanner chose to major in psychology at VMI. That major led her to her job assignment in the Air Force, information operations. It's a new specialty, just created in October 2016, and it calls for a background in behavioral psychology.

"It's essentially military deception," Tanner explained. "It's an [intelligence] job."



Rachel Tanner '17 takes part in the Air Force pin-on ceremony in Memorial Garden immediately following the joint commissioning ceremony. – VMI Photo by H. Lockwood McLaughlin.



Because the top-secret security clearance necessary for this position takes so long to process, Tanner's active duty date isn't until May 2018. Until then, she plans to look for a temporary job and focus on saving money.

"[The information operations position] is a really exciting job in a new career field, so I'm excited to pioneer that and see where it takes me," said Tanner.

Blaise Boullaine '17, who commissioned into the Army May 15, found camaraderie

an appeal as well, but for Boullaine, it was reason enough to come to VMI. A native of Connecticut, a state that is typically home to only a small number of cadets, Boullaine came to the Institute on a tour and immediately sensed the bond between cadets.

"It was more than at the Naval Academy or West Point, so it was really the brotherhood that I came here for," said Boullaine, who was among more than 100 cadets to commission into the Army this spring.

With a lifelong interest in the military, Boullaine came to VMI knowing he wanted to commission. At first, he was assigned to the Navy ROTC, but scholarships were in short supply that year, and he switched to the Army instead. He's never regretted the choice.

"The [non-commissioned officers] that were over me really drove me to do my best,"

*See Commissioning, page 20*

## Three Selected for SEAL Training

Displaying a singleness of purpose and a unity of vision, identical twins Brandon Hogge '17 and Tyler Hogge '17 decided in high school that they wanted to attend the same college and pursue their shared dream of becoming Navy SEALs.

Last summer, the twins attended SEAL training in Coronado, California, and in October, they received word that they'd been selected.



Brandon Hogge '17 and Tyler Hogge '17 sign their paperwork for their Navy commission following the pin-on ceremony May 15. – VMI Photo by Kelly Nye.

It was the first time since 2007 that three members of the VMI Naval ROTC had been selected for SEAL training – and this year, it made VMI's Navy ROTC the highest-producing unit in the nation for SEAL candidates. Nationwide, only about 17 members of Naval ROTC are selected for SEAL training each year. Overall, 26 cadets commissioned into the Navy from VMI's ROTC unit this year.

For the Hogge twins, the dream of a military career began when their older brother entered the Marine Corps Reserves. From there, the next step was the goal of becoming a SEAL.

"If I was going to do it, I wanted to do it big," said Tyler Hogge.

With the encouragement of their parents, the twins decided to go to college and commission into the Navy rather than enlist. They enrolled at VMI without ever visiting the Institute, and both chose to major in biology. Over the course of their cadetships, Brandon and Tyler learned that the words over Jackson Arch, "You may be whatever you resolve to be," were for them.

"VMI has taught me to handle anything that comes your way," said Brandon Hogge. "There's a lot of things that could get in the way of you doing what you set out to do, but you can't let them get in your way ... You need to do what needs to be done."

Tyler Hogge expressed a similar sentiment, saying, "You're in charge of your future. If you want something, go out and get it. There are resources out there, mentors and stuff like that, but you need to go out there and be proactive."

The Hogge brothers have been quite proactive in helping others within Naval ROTC achieve the goal of becoming SEALs – to the point of starting an exercise program specifically designed for the SEAL program's stringent fitness standards.

To pass the SEAL physical screening test, a candidate must be able to swim 500 yards in a time of 12 minutes and 30 seconds, do 50 pushups in two minutes, perform 10 consecutive pull-ups in two minutes, and run a mile and a half in 10 minutes and 30 seconds.

That level of fitness requires a time commitment beyond what's offered in ROTC.

"Normal ROTC for Navy is geared toward making surface warfare officers, which makes sense because the majority of people will be that," said Brandon Hogge.

Thanks to the Hogge twins' initiative, 18 underclass cadets took part in a structured program this year of running, swimming, and calisthenics. The grueling nature of the workouts is a wake-up call for many cadets.

"A lot of people come to VMI wanting to be SEALs, but they don't understand what it means," Tyler Hogge noted. "When you make them work out hard, they realize that it's not for them."

And while the twins are grateful that they've been selected for training, they know that being selected is but a first step. The next step, a return to California for Basic Underwater Demolition/SEAL training, typically has an attrition rate of approximately 80 percent.

Col. Dave Coggins, commanding officer of the VMI Naval ROTC, knows all too well that dreaming of becoming a SEAL is one thing, and that actually becoming one is another.

"Obviously, it's more than movies for these young men whose training is very dangerous, tough and not many even make it through to earn the title and have the job," Coggins said.

"Once they do, if they do, they'll have no easy day – they'll all be tough and what they do will be quiet, yet strategic for our Navy and nation as members of Navy Special Warfare Command and U.S. Special Operations Command deployed across the world for a nation's business."

– Mary Price

# Club Sports Finish Strong

By Chris Floyd

VMI's club sports enjoyed another stellar year. While the highlight may have been the United States Intercollegiate Boxing Association national tournament on post in March, which saw six Keydets earn national championships and the VMI men finish second in the team standings, several other teams turned in outstanding efforts, including the powerlifting, jiu jitsu, running, and triathlon clubs.



Members of the triathlon team including Travis Arnold '18 and Benjamin Johnson '18 huddle during the Patriots Sprint Triathlon in Jamestown this September. – Photo courtesy of Maj. Chris Perry '05.

The Running and Triathlon clubs each turned in one of their best seasons ever, and the Powerlifting Club sent 10 to its national championships.

Under the direction of Sue Hills, the Triathlon Club has tripled in size in the last three years, and this season it competed in seven team events and added a number of stellar individual efforts.

In October, VMI competed in the Mid-Atlantic Triathlon Conference Championships, finishing 11<sup>th</sup>, with just seven athletes competing. In April, the Keydets traveled to Tuscaloosa, Alabama, for the USA Triathlon Collegiate Club Nationals, placing 48<sup>th</sup> in a field of 106 teams, up 41 spots from last year's team finish.

Three athletes – Philip Jewett '17, Zach Sprinkle '17, and Chris Lloyd '20 – placed in the top 25 percent among the 1,200 athletes at the

national meet. Jewett and Sprinkle finished the season ranked in the top 50 percent in their age groups.

“The team's accomplishments are predicated on the fact that VMI only gets about 35 percent of the training time compared to other schools,” said Hills. “[That] truly highlights our success.”

The Running Club participated in 13 races over the course of the year, turning in numerous outstanding efforts.

The spring season opened in Summer Point, West Virginia, with a 5K/half marathon to raise money for veterans. VMI took three of the top five spots in the men's division and took the top two places in the women's race. The Keydets also ran in the Virginia Tech 3.2 for 32 Run for Remembrance.

“Our most meaningful race was our shortest,” said coach Col. L.E. Hurlbut. “We had a special T-shirt made commemorating the race that says ‘Today VMI runs with VT.’ With over 16,000 participants, the event was powerful and left a lasting impression on all.”

Individually, Josh Orr '18 competed in the Boston Marathon, completing the race in 2 hours, 57 minutes, 46 seconds. With his finish, Orr earned a spot in next year's Boston race.

The powerlifting team traveled to San Antonio, Texas, recently for the 2017 USAPL Collegiate Nationals and the largest collegiate meet ever held by the organization. The Keydets, with just 10 of the 23 qualifiers able to attend the competition, placed 12<sup>th</sup> overall and had two lifters finish in the top 10 of their respective weight classes.



Ramon Rivera '18 faces his opponent during a jiu jitsu match. – Photo courtesy of Maj. Chris Perry '05.

Leading the way was Natalie Carroll '17, who placed sixth, while Jason Poling '17 finished ninth. Wyatt Fagan '18 and Matthew Zwiren '19 both placed 11<sup>th</sup>, and Virginia Villani '19 finished in 15<sup>th</sup> place. 🏆

## 50<sup>th</sup> Reunion Check Presentation

On April 29, the Class of 1967 presented the initial proceeds of its 50<sup>th</sup> reunion campaign to the Institute during the traditional reunion parade. Accepting the gift on behalf of the Institute and the VMI Alumni Agencies were Gen. J.H. Binford Peay III '62, superintendent, and, at far left, Robert P. Louthan '82, president of the VMI Alumni Association. Four brother rats presented the facsimile check, representing more than \$22.5 million in gifts and commitments from 80 percent of the class. They were, from left, Robert C. Randolph IV, class president; George T. Richardson, a member of the reunion campaign committee; James E. Rogers, chairman of the reunion campaign committee; and James S.C. Phlegar Jr., a member of the reunion campaign committee. – VMI Photo by H. Lockwood McLaughlin.





# Faculty Teaching, Research Awards Bestowed

By Chris Floyd

VMI paid tribute to some of its top cadets and honored the people who helped to guide those high-achieving students with the annual Institute Awards May 14 in Cameron Hall.

Ten faculty awards were handed out at the ceremony, including two that were awarded for the first time this year.

Dr. Duncan Richter, of the Department of English, Rhetoric, and Humanistic Studies, received the inaugural Charles Luck III '55 Institute Professorship. This award is given to the faculty member who exhibits out-

standing accomplishments in the classroom, in curriculum and course development, in published scholarly research, and in service to the Institute and the community.

"I'm very grateful to have been given this generous award," said Richter, who teaches philosophy. "I know some of the other people who were nominated, and it's amazing that I somehow came out ahead of them in the review process."

"I've served on the Tenure and Promotions

Committee for the last five years, and I've seen how much hard work – and high quality work – is done by faculty members across post. So this really means a lot to me. I hope I can live up to the honor."

The Jackson-Hope Fund, which supports a number of programs at VMI, added another new professorship this year with its Jackson-Hope Distinguished Professorship. When fully implemented, one professorship will be awarded in each of VMI's academic departments. The first Jackson-Hope Distinguished Professorship went to Col. Dennis Foster, professor of international studies.

"It is a tremendous honor to be the first recipient of the Jackson-Hope Distinguished Professorship," Foster said. "I am humbled

by the Institute's recognition of my contributions in the domains of teaching, research, professional citizenship, and cadet development."

Foster went on to add that the award is a statement as to why so many good professors come to VMI and stay there.

"The Foundation's effort in establishing the Jackson-Hope chairs is a clear demonstration of its commitment to retaining and rewarding high-performing faculty who have dedicated their careers to VMI and who love teaching and working here."

work over time, the Jackson-Hope VMIRL Matthew Fontaine Maury Prize for excellence in research was awarded to Lt. Col. Dimplekumar Chalishajar, associate professor of applied mathematics. Dr. Youna Jung, assistant professor of computer and information sciences, won the Jackson-Hope Prize for Excellence in Published Scholarly Work.

VMI also awarded three Distinguished Teaching awards, recognizing outstanding teaching and academic mentorship, to Lt. Col. Anne Alerding, associate professor

of biology; Lt. Col. Ryan Holston, associate professor of international studies; and Lt. Col. Emily Lilly, associate professor of biology. Maj. Sara S. Whipple from the psychology department was the winner of the Thomas Jefferson Teaching Award.

VMI recognized Ryan Pryor for his work as a coach in the athletic department by giving him the Nathaniel W. Pendleton '22 Distinguished Coaching Award. The head water polo coach, Pryor led his



Col. Jay Sullivan makes his way to the stage to accept the Benjamin Hardaway Jr. '13 Institute Professorship in Engineering during the Institute Awards ceremony. – VMI Photo by Kelly Nye.

Col. Gerald "Jay" Sullivan, professor of mechanical engineering, was the recipient of the Benjamin Hardaway Jr. '13 Professorship in Engineering, while Col. Kenneth Koons, a history professor, earned the Gen. Edwin Cox '20 Professorship in History and Economics. Both awards are given to faculty members who exhibit outstanding accomplishment in the classroom, in curriculum and course development, in research, and in service.

An assistant history professor, Maj. Jochen Arndt, earned the Dr. D. Rae Carpenter Award, given for the best research proposal submitted to the VMI Research Committee.

Presented to a faculty member who demonstrates a commitment to scholarly

team to a 22-8 record, the best in team history, and its first-ever national ranking.

"Being chosen for the Pendleton Award is a tremendous honor," Pryor said. "It means even more because it is given on the basis of not only athletic excellence, but [also] on well-rounded success."

"While we had a great season this year athletically, it's always my aim to help facilitate the success of my athletes in all of the pursuits in furtherance of the VMI mission," the coach continued. "I'm very proud of the accomplishments our team has had athletically, academically, and as cadets. To me, this is a team award, as it's the athletes who are putting in the bulk of the work to make this success possible." 🌿

# 'Doc's Boys' Honor Legacy of Legendary Professor

By Scott Belliveau '83

On April 25, more than 100 alumni, their spouses and family members along with numerous cadets, faculty, staff, and a television news crew packed into the foyer of Maury-Brooke Hall to honor the legacy of long-time biology professor, Col. Robert P. "Doc" Carroll, and to witness the unveiling of a bust of him.

Carroll served VMI from 1928 to 1968, and his multi-faceted career included teaching and research as well

as establishing a herbarium and leading the VMI Firefighters. According to many alumni, Carroll was a major influence on their lives. Countless more credit him with getting them started in medicine, dentistry, and science. Such is their esteem that, collectively, these men refer to themselves as "Doc's Boys."

The ceremony concluded an effort that began last spring after one of Doc's Boys, Dr. Charles B. Hayes '58, learned that a painting of Carroll, displayed in Carroll Hall, had disappeared. He shared his concern that Doc's legacy would vanish unless there was a tangible commemoration of him on Post with Dr. William G. Harshaw Jr. '58. Harshaw suggested that a bust be placed in an appropriate location on Post. Hayes agreed and, after receiving Institute approval for the project, he began contacting fellow Doc's Boys.

Their response was so generous that, almost immediately, it was evident that the cost of the bust would be easily met. It was then that Warren J. Bryan '71, the VMI Foundation's CEO; and Col. James E. Turner Sr. '65, the Biology Department Head (and one of Doc's Boys); and Hayes discussed how to use any excess funds.

They agreed that they should be directed to the Robert P. Carroll Educational Fund, also known as the Carroll Fund. Established in 1967 as Carroll began his last year on the faculty and enjoying steady support



From left, sculptor Richard Pumphrey, Col. James Turner '65, Dr. Charles Hayes '58, and Brig. Gen. Jeff Smith '79 unveil the bust of Doc Carroll. - VMI  
Photo by H. Lockwood McLaughlin.

since then, the fund is an endowment that generates money to support the Biology Department. Its current value of approximately \$1 million makes it one of VMI's largest departmental discretionary funds.

The bust of Carroll was designed and executed by Richard Pumphrey, a faculty member at Lynchburg College. His work includes seven portrait sculptures of the Allied leaders of World War II at the National D-Day Memorial in Bedford, Virginia, and one of Thomas Jefferson at Poplar Forest, his restored retreat near Lynchburg.

Following a welcome from Brig. Gen. Jeffrey G. Smith Jr. '79, dean of the faculty, Turner described Carroll's many contributions to VMI, but emphasized Carroll's role as a mentor.

"Doc taught me how to put aside all personal uncertainties and search for my strengths. ... At times he was gentle, and there were times he was not, but both approaches, in their own way, inspired me to work beyond my expectations. Doc taught me not be intimidated by the vast knowledge that confronted me but to consume

it with an ever increasing appetite. Without these early foundational lessons, I would not have been able to succeed," he said.

Bryan – another of Doc's Boys – spoke of Carroll's "outsized influence ... on the lives of so many alumni" and how the work that Doc's Boys have done demonstrates "how broad and deep this man's influence truly is." After describing how the Carroll Fund perpetuates Doc's legacy, he announced that the generosity of Doc's Boys had added \$75,000 to its endowment.

After leading the alumni who were present in a salute to Carroll, Hayes spoke movingly about his former professor. He claimed that whatever he or anyone else could say about Doc, "it would not come close to all that he meant to us and to VMI."

By describing the careers of John J. Salley '47 and Roby C. Thompson '55, both of whom enjoyed long careers as educators and practitioners, Hayes said that they embodied Doc's legacy of educating and inspiring generations of young men in order "to prevent a lot of pain and to save a lot of lives" and that the legacy would continue. Yet, it was his concluding line that summed up the feeling common to Doc's Boys and the reason for this effort's success: "He was a giant in our lives." ❁



Dr. Charles B. Hayes '58, who led the effort to honor Doc Carroll, speaks to the crowd assembled at the dedication. - VMI  
Photo by H. Lockwood McLaughlin.



# Vargas Wins Technology Award for Laser Research

By Ashlie Walter

Col. Stacey Vargas won the Innovation in Higher Education award from the Shenandoah Valley Technology Council for her research of ultra-short-pulse lasers.

Since 2014, Vargas, a professor of physics and astronomy, has been studying the use of lasers for telecommunications at VMI along with a corporate partner – Attochron LLC.

“It’s very nice, obviously, to be acknowledged by an outside institution,” Vargas said. “The most rewarding part is the benefit [the project brings] to cadets and the educational piece; that’s where I get my enthusiasm.”

Her work started with funding from a Center for Innovative Technology grant of \$100,000 and funding has increased to a \$1 million investment from New York-based private equity firm Three Cities Research Inc.

At each stage of the project, VMI cadets from a spectrum of science, technology, engineering, and math majors have been involved.

“[The cadets] have to be able to communicate across disciplines,” she said.

They are required to submit weekly reports to Attochron, which Vargas said empowers them to be more engaged with the project.

She said it has been a great opportunity for the cadets to learn the research and development side of the project as well as the business side.

Cadet Will Johnston '17 has been involved with the project for two years either as a student or an intern with Attochron. He graduated from VMI as a double major in mathematics and physics and commissioned in the U.S. Air Force. He is the only cadet in the nation to receive a physics-in-residence Air Force Institute of Technology assignment.

He credited his experience with the research project and mentoring by Vargas for his decision to pursue the study of nuclear physics in the Air Force.

“I think it is great that she has won the award. In my opinion, I think she deserves much more than a single award because of what she has done to expand cadets’ experience past the classroom academics into real world research and business,” Johnston said.



Col. Stacey Vargas, professor of physics and astronomy, received an award for “Innovation in Higher Education” from the Shenandoah Valley Technology Council in May. – Photo courtesy of James Madison University.

When the project first started, it was housed in the VMI greenhouse with a linking site 300 meters away at the Foster Stadium press box. Since data transmission was successful there, they looked to expand the distance between sites.

The goal was to find a distance of 1 kilometer, which would be more viable for real world applications.

While the VMI site remained in the greenhouse, a second site was developed at the Robert E. Lee Hotel and then moved to where it is now, on the roof of the Carillion Stonewall Jackson Hospital.

The roof of the hospital allows the team to see if the project is viable in all weather conditions, from early morning fog to a 7-inch rainfall, Vargas said.

Vargas said the hospital has been very accommodating to the project. The next step is attempting a data transmission using the USP laser, most likely a movie file, to see if data can be sent both ways or “bi-directionally.” 🌲



## International Law Competition

Six 1<sup>st</sup> Class cadets traveled to San Remo, Italy, March 13-17 to compete in the 2017 Law of Armed Conflict Competition, a yearly event for cadets from military academies worldwide that tests their knowledge of international law. This year, VMI placed third in the “Spirit of San Remo” award, an honor given to the school or individual that best reflects cross-cultural engagement, multinational cooperation, and a positive spirit. In addition, Austin Hartness and Jonathan Bukowski tied for fifth place in the team awards category. Others representing VMI this year were Kristin Whitehurst, Juan Montalvo, Lawton McGahey, and Zach Regen. This is the fifth year that Col. Robert “Bob” James Jr., adjunct professor of international studies, has taken cadets to this competition, and the fourth year that cadets have brought home awards. – Photos courtesy of Col. Bob James.



"I saw a lot of growth," said Allen of the class as a whole. "I liked seeing the excitement of the buy-in to their class."

Like Allen, other faculty advisers say that seeing cadets' growth, and meeting a wide cross-section of cadets, brings a quiet satisfaction all its own.

"I get to meet cadets that I would not normally see in classes," said Lt. Col. Meagan Herald, associate professor of mathematics and adviser to the Class of 2018. "I'm a little bit more involved in the non-academic side of VMI, both for the good and the bad."

Herald explained that the good side has to do with being there for her class during events such as Breakout and Ring Figure, while the bad involves accompanying a member of the class accused of an honor court violation through the pre-trial phase.

"I'm there to offer support and talk them through the process – what's going to happen, what are your choices, consequences that are going to follow," she noted. "I'm somebody on their side to help them through the process."

One of Herald's biggest tasks this past year was helping her class prepare for Ring Figure. "Mostly I was a sounding board for trying to get buildings and rooms," she stated.

And while Herald's advisees have just become 1<sup>st</sup> Class cadets, Maj. Daniel Harrison '05, assistant professor of chemistry, has three more years to go with the Class of 2020.

For Harrison, the desire to become a class adviser was a sentimental one. Well aware of the VMI dyke system that pairs 1<sup>st</sup> Class cadets with 4<sup>th</sup> Class cadets, Harrison picked a class that was in his dyke line. Harrison graduated in 2005, and his class's 4<sup>th</sup> Class cadets graduated in 2008. Adding 3-year increments to that number results in the Class of 2020 being tied to Harrison's class through the dyke line.

"This rat class is my great-great-great grand-rats," Harrison said. "And we talk like that."

Now 12 years post-graduation, Harrison sees clear differences between the cadets of today and those at VMI during his cadetship.

"Although brother rats have always been very supportive of one another, it seems like it's been amplified over the past decade," Harrison commented. "People stand up for one another, look out for one another, a lot more than I remember. There's definitely a greater class unification and support system."

Harrison has also noticed that cadets' time is more in demand, with more commitments such as physical training time.



Col. Sam Allen stands with Class of 2017 cadets before leading them into Cameron Hall for the graduation ceremony. – VMI Photo by H. Lockwood McLaughlin.

"They do a lot more now than I did as a cadet," he commented. "Cadets are busier. That's in line with the modern world."

Herald, meanwhile, recommends that other faculty members step up and volunteer to become class advisers.

"It's a way to get involved in VMI," she commented. "You get to see the other sides of things. There seems to be definitely a division between the three-legged stool that we always talk about here, and this is a way for you to see other perspectives. You get to see the cadet perspective, but you also get to see the perspective of the commandant and other areas that you wouldn't normally get to see."

This spring, Herald sat in on interviews for members of the Class of 2018 aspiring to hold rank next year. It was a certain reminder that in just one year, they will be the ones graduating – and she's already planning on packing a handkerchief for graduation. ✱



Lt. Col. Meagan Herald cheers with members of the class of 2018 during the combat ring dinner the night before Ring Figure. – VMI File Photo by Stephen Hanes.

### Change of Command

Timothy Davison '17 and Finn Swenson '18 add Davison's name plate to the list of cadet first captains located in Jackson Arch May 14. During the change of command parade shortly afterward, Swenson ceremonially took charge of the Corps of Cadets as the next regimental commander. He and the rest of the new regimental staff and cadet first captains will return in the fall to lead the Corps during the 2017-18 academic year. – VMI Photo by Kelly Nye.





# Math That Matters Teaches Interdisciplinary Skills

By Mary Price

A new and reinvigorated math curriculum for 4<sup>th</sup> Class cadets whose majors do not require calculus is drawing closer to launch.

Math That Matters: Math for the Modern World, a mathematical modeling approach that strives to teach new cadets the quantitative skills necessary for their majors, will be implemented in the fall of 2018.



Col. Troy Siemers and Maj. Jessica Libertini brainstorm ideas for the new math curriculum while looking at suggestions from other academic departments. – VMI Photo by Kelly Nye.

The new curriculum is part of the quality enhancement plan associated with VMI's reaccreditation by the Southern Association of Colleges and Schools' Commission of Colleges. VMI is currently undergoing the reaccreditation process.

Efforts to develop the quality enhancement plan began in 2016 with the development of a conceptual framework, led primarily by Maj. Jessica Libertini and Maj. Karen Bliss, both assistant professors of mathematics. This spring, faculty from eight departments whose majors do not require calculus were invited to brainstorming sessions in which they provided input on what kind of quantitative skills their majors should have.

"This participatory modeling process allowed us to very quickly get a visual of what our customer departments value," said Libertini. "We as applied mathematicians have a sense of what mathematics is important, but it's really nice to get that affirmation from the customer departments as we put together the [quality enhancement plan]."

With that outside faculty input, Libertini and others in the applied mathematics department have developed course modules focusing on topics such as voting and

democracy, travel and currency exchange, and BATTleship. The last is a play on words involving both the familiar game and research currently underway in the VMI biology department.

"It's like the game of Battleship, but it's looking for bats," Libertini explained. "It's based on [Lt. Col.] Paul Moosman's data over in biology."

To increase cadets' participation in the course and help them take charge of their own learning, cadets will be required to come up with their own real world math problem and a solution for that problem.

"Once you make it part of their lives, when you get information from their majors, from athletics, from ROTC, from whatever, they have to come up with a project that is theirs," said Col. Troy Siemers, chair of the Department of Applied Mathematics. "I don't think there has ever been a math class

where people had to come up with their own project as a freshman and defend it."

Col. Turk McCleskey, professor of history, knows more than a little something about coming up with his own project. McCleskey, whose specialty is American history, uses quantitative skills in his research on a regular basis as he analyzes lawsuits filed in courts on the colonial American frontier. Over the past several years, he's also partnered with faculty from other departments, including electrical and computer

engineering and economics and business, to conduct interdisciplinary research.

"Historians are naturally interdisciplinary because we're concerned with human behavior in a lot of different ways," McCleskey explained. "We're trying to show cadets not only that math is relevant but also how to use a teamwork approach for solving problems."

He noted that historians use descriptive statistics such as mean, median, average, and standard deviation in their day-to-day work.

"If you have those things, you can describe groups," McCleskey said.

"What's more, those quantitative factors can be used to describe change over time," he continued. "Numerical change over time is partly what calculus is about, and it's also what history is about. There's more of a connection between math and history, at least at a high altitude, than people often associate."

This summer, two cadets will continue work on the quality enhancement plan. Stephen Reibach '18 and Anthony Tarnowski '18, both applied mathematics majors, will take some of the proposed modules for the new courses and develop them for implementation in a classroom setting.

"They're going to help us develop modules from a cadet perspective," said Libertini. "It's helpful for them because they get to flip roles. They're used to being the students, but now they have to think about how is the classroom time actually planned, what is it that we can do in the classroom."

Final steps before the quality enhancement plan is implemented include approval by the core curriculum oversight committee and the academic board. 🚩

## Naval Change of Command

Battalion Sgt. Maj. Matthew Eshardo '18 walks the Naval ROTC Battalion flag to the stage in Jackson Memorial Hall for the Naval change of command April 21. Michael Landry '18 took command of the battalion, Kailey Dixon '18 took command of the Marine Company, and Cody Rioux '18 took command of the Navy Company. – VMI Photo by Kelly Nye.



# 'You Combine Life and Math Together'

## Five VMI Teams Place Highly in International Math Competition

By Mary Price

VMI's Department of Applied Mathematics received global recognition this spring when a third of the 15 cadet teams entered in the Consortium for Mathematics and Its Application's international math modeling competition placed very highly.

Cadet teams from the Institute have been entering the competition, known as the mathematical competition in modeling/interdisciplinary competition in modeling, since 2012. However, this year the number of VMI teams entered was approximately double the previous year's – and three of the teams achieved a level of recognition, "meritorious," that no VMI team had ever achieved before. Two teams received an honorable mention.

One team even submitted a video to the MCM/ICM video competition, and that video was one of only two worldwide to be given the designation "outstanding." Members of the winning video team were Jonathan Chu '17, Thayer Meyer '17, and James Chapman '17.

"It's an online competition, and it attracts tens of thousands of teams from around the world," said Maj. Jessica Libertini, assistant professor of mathematics. She explained that there are six questions provided, and each team of two to three students picks one of those problems.

Entrants then have 98 hours to come up with a solution to the problem – and, Libertini explained, the questions are so complex that two hours of those 98 are allotted just for reading the questions and trying to determine what they are really asking.

This year, members of VMI's teams were seriously crunched for time. The presidential inauguration took place that weekend, as did the 20-mile road march that is mandatory for all 4<sup>th</sup> Class and 1<sup>st</sup> Class cadets. There were no 4<sup>th</sup> Class cadets competing in the MCM/ICM this year, but there were plenty of 1<sup>st</sup> Class cadets.

"Even though it was supposed to be 98 hours, our cadets had way less time," Libertini noted.

Because they were both 1<sup>st</sup> Class cadets, and therefore had to do the road march, Zack Melvin '17 and Michael van Duinen '17 found themselves struggling with the time aspect of the competition. The two had chosen to work on the problem of how to speed up the Transportation Security Agency's screening of airline passengers and avoid bottlenecks in airports.

"We were really short on time so we looked for discrete modeling software that could do the work for us," Melvin said.

With the help of that software, Melvin and van Duinen found that simple changes, such as adding metal detectors and additional conveyor belts for screening carry-on luggage, would best speed the process along.

Melvin said that participating in the MCM/ICM competition had taught him about trusting his partner during teamwork. "We didn't have time to look over the other person's shoulder," he explained.

Receiving a "meritorious" award came as somewhat of a surprise. "We didn't think ours was as detailed or as thorough as it could have been," said Melvin. "But we put a lot of good effort into it."

For Shang-Cheng Su '19, participating in the MCM/ICM competition brought an unexpected benefit: confidence. "It motivated me to work harder and study harder," said Su, who worked with Yu-Hsiang



Cadets compete in the Consortium for Mathematics and Its Application's competition. – Photo courtesy of Maj. Jessica Libertini.

Liu '17 and Kuan-Wei Yu '19 to solve a problem related to sustainable cities.

Su explained that the confidence boost he received from earning a "meritorious" distinction gave him the courage to apply to the Institute Honors program. Even if he isn't admitted to the program, he plans to conduct some sort of interdisciplinary research with Libertini, who is his faculty adviser.

"I like interdisciplinary stuff," said Su. "You combine life and math together to get results."

For Libertini, the cadets' success was a direct result of both their hard work and the department's commitment to mathematics not as an abstract discipline but as a source of problem-solving tools for the real world.

"We really are committed as a department to being an applied mathematics department," she said. "Starting in our calculus program, we have them working on application scenarios. ... They're getting a lot of exposure early on and I think that is helping." 🌸

### Retirement Parade

Retiring faculty members Col. Dan Barr '74, Col. Lee Dewald, and Col. Grigg Mullen Jr. '76 watch the beginning of the retirement parade with Pam Peay and family members on April 21. Due to storms, the parade was canceled and the ceremony was moved inside to Jackson Memorial Hall. – VMI Photo by H. Lockwood McLaughlin.





# ERHS Cadets Learn Digital Literacy, Advocacy

By Ashlie Walter

In assistant professor of English, rhetoric, and humanistic studies Maj. Deidre Garriott's Digital Rhetoric class, cadets learned how to present themselves in a professional way on social media in an increasingly digital world.

For the last week of class in early May, the cadets presented their final projects. Each created a page – on Facebook, Twitter, or a blog – advocating a specific cause.

Coleman Callaway '19 said he has always had a passion for the Chesapeake Bay and wanted to bring awareness to the Chesapeake Bay cleanup effort by the U.S. Environmental Protection Agency, an agency facing uncertainty in its funding, though Congress has maintained funding for the Chesapeake Bay Program through the end of September.

After creating a Facebook page on the subject earlier in the spring semester, Callaway was quickly contacted by a representative of the Chesapeake Bay Foundation, a Bay cleanup advocacy group, and was invited to their Richmond office to discuss “ways to spread the word,” he said.

“I am living and working right on the bay this summer actually and plan on attending the foundation's various volunteer activities for cleaning the bay as well as oyster seeding,” Callaway said.

His long-term goal would be to help educate the public on the benefits of a clean Chesapeake Bay, not only from a health standpoint but, also, an economic standpoint.

“Small business and economic growth have a definite correlation with the rising water quality of the bay,” he said. “It is no coincidence.”

Garriott has taught the class for three semesters, but this was the first semester focused on digital persuasive writing literacy.

The end-of-the-year project's purpose was for cadets to demonstrate their multi-platform, digital literacy in a real-world format, Garriott said.

For Cadet Merit Patterson '19, the class taught him how to interact professionally on Facebook and create a well-thought-out plan, something he will need when he commissions into the U.S. Marines, Patterson said.

His Facebook page titled “Siblings United” focused on building relationships between younger and older siblings.

“I drew inspiration from my own family. I have four [or five] younger siblings,” he said, adding he is 10 years older than his younger brother Max and has another sibling on the way.

Patterson said, surprisingly, the page received more feedback from his family than strangers.

The planning process for the project was more in-depth than



Merit Patterson '19 presents his final project during Maj. Deidre Garriott's Digital Rhetoric class in May. – VMI Photo by Ashlie Walter.

he had considered, which drew parallels for him to the military. For his ROTC unit, everything has to be planned out and any assumptions discerned. When he first wrote the digital rhetoric project proposal, he didn't think to include the name of his page or what the profile picture would be.

“You have to be sure you are being very clear; definitely that attention to detail and have a plan before going out,” he said.

The class also taught him about social media etiquette and

presentation, how people identify on social media.

“I would just post a picture.

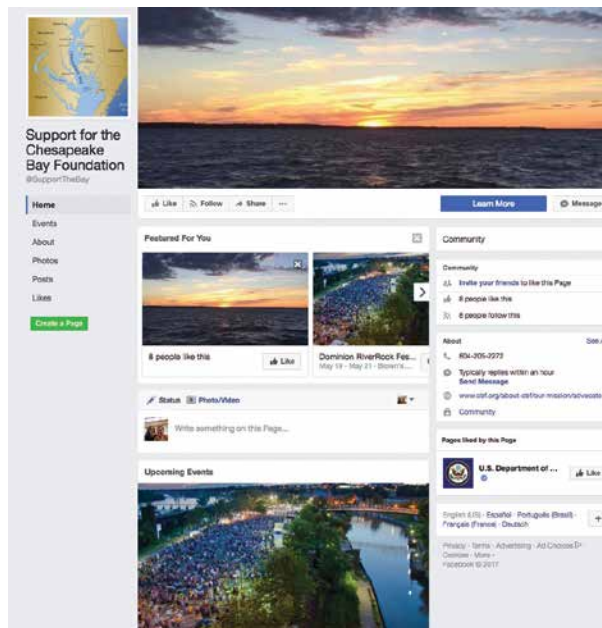
Subconsciously, when we post a picture, we post an image of ourselves and what we want to see,” Patterson said.

Cadet Carlee Anderson '18 said the class allowed them to study a variety of digital mediums. Her final project advocated extra-curricular activities for low-income children with help from college students.

She created a blog on the E-Portfolio platform and wrote posts on various topics from an *Atlantic* magazine article on the activity gap among low-income and high-income children to her personal experience with after-school sports.

Anderson said the skills she learned in the class could be necessary for any cadet to learn.

“I think it would be beneficial for all cadets; what they post and what they say has resonating effects because it does stick around for a while,” she said. 🌿



A screenshot shows 3<sup>rd</sup> Class cadet Coleman Callaway's final project – a Facebook page advocating the protection of the Chesapeake Bay. – Retrieved from Support for the Chesapeake Bay Foundation's Facebook page.

## Commissioning *continued from page 11*

Boullaine said. “They really helped a lot. ....  
“[The Army gives] me a lot of opportunities  
that most college kids wouldn’t have.”

As he prepares to depart for Fort  
Benning, Georgia, where he’ll attend the  
Army’s Basic Officer Leadership Course,  
Boullaine is eager to plunge into his new  
career. “I’m really looking forward to serv-  
ing my country, defending the people, and  
securing our freedoms,” he said.

Boullaine also noted that the bonds  
that drew him to VMI in the first place  
proved instrumental in helping him make  
it through four long years of academics,  
physical training, and ROTC commitments.

“If it wasn’t for the people, I wouldn’t  
be here,” he stated. “It’s a group effort.  
I don’t really attribute anything to just  
me. I’ve just gotten the luckiest end of the  
stick.” 🌿



### MLC Poetry Night

Third Class cadets (from left) Emory Lieber,  
John Philbeck, Maxwell Horowitz, Adam  
Josephson, Hannah Gillan, and Xavier  
Matthews participate in the modern lan-  
guages and cultures department’s Poetry  
Night in the Turman Room of Preston  
Library April 19. Participants were encour-  
aged to recite poems or short prose in the  
work’s original language as well as share  
personally composed work. – *Photo courtesy  
of Maj. Abbey Carrico.*

### Alumni Rugby Match

Members of the VMI rugby team and  
alumni compete in the alumni rugby  
match April 29. First Class cadets on  
the team played the first half with their  
current teammates and switched teams  
to play the second half with the alum-  
ni. At the end of the first half, the teams  
were tied 59 all, but, after the switch,  
the alumni won the game 97 to 62. – *VMI  
Photo by H. Lockwood McLaughlin.*

