



# INSTITUTE REPORT

Volume 51, Number 7, May 2023

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## SMC Cyber Fusion

VMI hosted Senior Military College (SMC) Cyber Fusion April 16–18 in Marshall Hall. Participating senior military colleges included Norwich University, Texas A&M, The Citadel, University of North Georgia, Virginia Tech, and VMI.

Retired U.S. Army Brig. Gen. Jeffrey G. Smith Jr. '79, was keynote speaker on Monday in Gillis Theater. Recently retired from VMI, Smith served four years as dean of faculty and deputy superintendent for academics, followed by four years teaching in the Department of Computer and Information Sciences. His talk titled, "The Landscape of Cyber," addressed the use of artificial intelligence (AI). He encouraged his audience not to fear AI, as many do, but to embrace it and develop it into an aid to help humanity in all forms of day-to-day life, including household chores, solving crimes, and discovering new areas of the universe.

Later in the day, a panel discussion was held entitled "Cybersecurity Workforce-Readiness for Cadets in Securing Department of Defense Opportunities," followed by a presentation by VMI's Dr. Mohamed Azab titled, "Cybersecurity Workforce Development and Education: Challenges and Opportunities." Group exercises and a competition were also part of the event.

The winners of the capture-the-flag-style competition were VMI in first, Virginia Tech finishing second, and The Citadel in third.—VMI Photos by H. Lockwood McLaughlin, Kelly Nye, and courtesy of the Cyber Defense Lab.



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On the cover: David Mack '24 and Drury Bowles '25 help lift a portion of the new pavilion into place at Brewbaker Field Sports Complex.—VMI Photo by H. Lockwood McLaughlin.

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# Walder Completes Leader-in-Residence Program

By Marianne Hause

The 2022–23 Leader-in-Residence (LIR) Tracy Walder, former Central Intelligence Agency (CIA) officer, Federal Bureau of Investigation (FBI) special agent, and author of the book, “The Unexpected Spy,” visited post several times through the academic year. Named in honor of VMI’s 14<sup>th</sup> Superintendent Gen. J. H. Binford Peay III ’62, the LIR program is an important part of the Center for Leadership and Ethics’ efforts to educate, engage, and inspire cadets, faculty, and staff to develop as leaders, and brings to post people of stature within their fields whose distinguished careers exemplify the citizen-soldier model. Walder’s residency amounted to a two-week visit over the course of the academic year. She has interacted primarily with cadets in various formal and informal settings, including the classroom, barracks, and during athletic activities such as club sports. Walder gave the keynote address at the Superintendent’s Leadership Dinner held April 19.

Sitting in on a few classes, Walder discussed her experiences in counterterrorism and law enforcement, and the concept of effective followership and leadership with cadets.

She shared that her dream growing up was to become an astronaut, but she suffers from number dyslexia, a condition that causes struggles with math concepts. She excelled in English, but did poorly in math. “I went to space camp multiple times as a teen, but couldn’t hack the math, so I didn’t go into the military,” she said.

She shifted her educational focus to history when she had an inspirational history teacher. She attended the University of Southern California with the goal of becoming a high school history teacher. During a career fair on campus however, she visited the CIA booth, an act which would totally alter her future.

“They were looking for students majoring in liberal arts, and called me a few weeks later with a job offer contingent on



Tracy Walder dines with cadets during the Superintendent’s Leadership Dinner in the Hall of Valor April 19.—VMI Photo by H. Lockwood McLaughlin.

my graduation the following May. I wanted to work with the Counterterrorism Center Weapons of Mass Destruction Group, and was lucky because that’s exactly where they placed me. I spent time initially at headquarters, then rotated through all divisions in order to learn respect and build camaraderie with the other agents. It felt like a normal job, but all changed dramatically on 9/11. We all slept at work for the first few nights following the terrorist attacks on the United States,” Walder recalled. She even remembers what she was wearing when she heard the news.



Tracy Walder laughs as she speaks in the Hall of Valor in Marshall Hall at the Superintendent’s Leadership Dinner.—VMI Photo by H. Lockwood McLaughlin.

Walder helped write the Aug. 9, 2001 presidential daily brief, just 33 days prior to the attacks. “The report read, ‘There is an increase in terrorist chatter. They may use aircraft and they are looking at high level buildings.’ Beyond that, there was nothing specific,” she recounted.

She was sent to poison school in 2002, and learned about all the cheap and easy ways to make poisons. She recalled an incident while based in a foreign

country, (she could not share which country specifically) she was searching a suspected terrorist’s apartment, and discovered residue of ricin, a highly toxic poison found naturally in castor beans, in a storage cabinet. The terrorist was employed at a legitimate Cetaphil skincare factory, and was putting the ricin in the product to be shipped out. She notified the company immediately, before the product was distributed and prevented anyone from becoming ill. In gratitude, the government of that country awarded her a medal. “It felt good to be able to stop the dispersal of that poison,” she said.

During her time at the CIA, Walder traveled to Afghanistan, Jordan, Uzbekistan, Algeria, Morocco, Denmark, Sweden, Italy, and England. She received many awards for her service from both the CIA and foreign intelligence offices. Among her awards were four Exceptional Performance Awards from the director of the CIA, two Special Activity Awards, a Meritorious Unit Citation Award, a DCI Counterterrorism Center Medal, and two Operation Enduring Freedom Targeting Awards.

Walder left the CIA because she did not want to continue to live overseas, so she went to work for the FBI. “Law enforcement was different from evidence gathering. The FBI was focused on weapons, the CIA was more about situational awareness,”

*Continued on next page*

she noted. She started her FBI training at Quantico, where she experienced bullying and sexual harassment. “Even though there were only six female agents to the 34 male agents, the females were equally guilty of bullying. There was an ‘in group’ versus an ‘out group’ of which I was a part. The head of Quantico joined in the bullying as well, and to my knowledge, it continues.”

Even though the work was harder, and the environment was harsher while working for the CIA, she preferred it over the FBI because of the superior leadership she found there. “George Tenet, the former CIA director was the best leader I have ever had. He took good care of our team. After 9/11, two other agents and I were working long hours in a confined room. He would bring us bagels and donuts for breakfast, which may sound like a little thing, but it was very much appreciated. He discovered I was Jewish, told his wife, and she made me latkes for Hanukkah. She even cooked us



Tracy Walder speaks to a class in Scott Shipp Hall during her February visit to post as Leader-in-Residence. —VMI Photo by Kelly Nye.

Thanksgiving dinner. He even jeopardized his own job by running interference for us when members of Congress wanted to come and observe our work. We needed privacy to work, and he made sure we got it,” Walder recalled.

“Being an effective follower is the foundation of being an effective leader,” she stated, and gave an example of a poor leader she had at one time called “Charlie.” “He was focused on chasing a title, and viewed his position as just a rung up his career ladder. Charlie was not inspirational, and I

was not an effective follower when he was my leader. In contrast to Charlie was Tom, who like George Tenet, was inspirational. When I got shot in Afghanistan, do you think I thought of Charlie? No! I thought of Tom, who inspired me in my recovery and perseverance.”

She encouraged the cadets that being a good follower is not just obeying their leader’s every command. “You may need to respectfully speak up to your leader when necessary. Provide good counsel to your leaders when they need to hear it, even though it may be difficult, and you may be the only one willing to do it. It may mean the difference between a successful mission and a disastrous one,” she advised.

Walder now works as an adjunct professor of criminal justice and domestic terrorism at Texas Christian University and global terrorism at Ursuline Academy. She is often called upon by local and national media for expert commentary on high-profile news events. 🦋



## MORS Colloquium Comes to VMI

The Department of Applied Mathematics hosted this year’s Military Operations Research Society’s (MORS) Educational and Professional Development Colloquium in late March in Mallory Hall with nearly 20 cadets participating. Other schools in attendance included the U.S. Naval Academy (USNA), the U.S. Military Academy at West Point, The Citadel, North Carolina State, and the University of Arizona. The two-day event, which brings together students and professionals for mentoring and workforce development opportunities, featured guest speakers, breakout sessions, student research presentations, and the Rosenthal Competition. This “quick reaction analysis” challenge allows participants to work together on different ways to approach an operations problem and present a team solution. This year’s Rosenthal Competition winners were Katherine Mendyk from USNA, Andrew Barlow from West Point, and Anthony Pearson ’24 from VMI with their presentation on “Employment of Surveillance Towers to Minimize Damage from Natural Disasters.” —VMI Photos by Kelly Nye.



# Environment Virginia Hosts Nearly 500

By Marianne Hause

The 33<sup>rd</sup> annual Environment Virginia Symposium was held March 28–30 across post. The event, organized and co-hosted by the Center for Leadership & Ethics (CLE), attracted nearly 500 attendees from state and local governments, nonprofit organizations, higher education, and the private sector. Col. Dave Gray, director of the CLE, served as master of ceremony for the event.

Topics at this year's symposium included monitoring and managing water quality, water conservation, stormwater initiatives, wildlife corridors, climate resilience, electric vehicles, tree canopy and mitigation of urban heat, agricultural best practices, climate change, healthy farmlands, modeling and monitoring the health of the Chesapeake Bay, and more.

The keynote session was moderated by Roy Hoagland, senior program officer for the Virginia Environmental Endowment, and featured four state government officials: Matthew Wells, director of the Department of Conservation and Recreation (DCR); Mike Rolband, director of the Department of Environmental Quality (DEQ); Becky Gwynn, deputy director of the Department of Wildlife Resources (DWR); and Rob Farrell, director of the Department of Forestry (DoF).

Wells became DCR director in March 2022, and has over 20 years of experience

related to Virginia politics, policy, and environmental advocacy. He holds a degree in foreign affairs from the University of Virginia and a certificate in sustainability from Virginia Commonwealth University. Wells wants to expand access to outdoor recreation, open new parks, provide additional park amenities, and ensure the parks are safe and well maintained. Improving water quality in the Chesapeake Bay, and mitigating high-risk dams are high priority projects for his department. He is also striving to be as inclusive as possible to all people groups. "The DCR is making sure everyone has a seat at the table. We are engaging people where they are, by community outreach. Flooding especially impacts minorities more, and we want to hear from them," he said.

Rolband joined the DEQ in January 2022. He founded Wetland Studies and Solutions Inc. (WSSI) in 1991 and grew his company into a multidisciplinary natural and cultural resources consulting firm with a staff of more than 200. WSSI assisted land developers and public works agencies navigate the Clean Water Act, Chesapeake Bay Preservation Act, and local environmental regulations. Rolband said his number one focus is to improve response time and performance in providing permits. He cited the success of his PEEP (Permitting

Enhancement & Evaluation Platform) Program, a critical path management scheduling system for every class of permits that DEQ touches, making the permitting process easier, more efficient, and totally transparent in communications with the public. People applying for permits are able to monitor the permit process online. He reported that his department is currently working on creating one comprehensive manual on stormwater, condensing the current five manuals that have conflicting rules and regulations. He plans a commodity trading platform that lets people buy and sell credits in real time to stimulate more investment.

Gwynn has worked at the DWR since 1988. She has extensive experience in land conservation, acquiring more than 20,000 acres that have been included in the DWR's Wildlife Management Area system, and provide a diversity of habitats for at-risk to common species, as well as extensive opportunities for public access. Gwynn reported that her department owns over 250,000 acres across the commonwealth in wildlife management and conservation areas and she wants to improve public awareness about and access to those properties. She also wants to diversify her workforce to include more women and people of color. Evaluating, restoring, and protecting properties and dam infrastructure is high on her priority list. She also stated that everyone should have access to the outdoors, and that there should be no barriers. As a result, she is working to reduce the cost of hunting and fishing licenses. She wants to engage more with tribes and people of color to discover reasons that keep them from using and enjoying the parks.

Farrell serves as the eighth state forester of Virginia as well as the director of the DoF, which is responsible for protecting the forest resources of Virginia. Farrell's key message was, "Trees are the answer. Whatever the problem is, trees are the solution." After the audience's laughter and applause subsided, he continued in sincerity, "The challenge faced in Virginia is that 80% of the forests are privately owned. The only way to



Matthew Wells, director of the DCR; Mike Rolband, director of the DEQ; Becky Gwynn, deputy director of the DWR; and Rob Farrell, director of the DoF, participate in a panel discussion in Gillis Theater March 29.—  
VMI Photo by H. Lockwood McLaughlin.

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Plenary speaker, Robert "Bobby" Whitescarver, who is retired from the U.S. Department of Agriculture's Natural Resources Conservation, speaks in Gillis Theater March 30.—VMI Photo by H. Lockwood McLaughlin.

enhance and protect the forests is by working with those landowners." The DoF plans to do more one-on-one work and assistance with those landowners to encourage, enable, and educate them to address the challenges facing the forests. One of the drivers he suggested, is having markets for forest products since money drives landowner decisions, and markets enable management. Farrell too wants his agency to reflect the population. "We recruit employees from the pool of applicants who want to work for us. Since becoming a forester requires a college degree in that field, we need to encourage a more diverse culture to study forestry."

The plenary speaker of the conference was Robert "Bobby" Whitescarver, who is retired from the U.S. Department of Agriculture's Natural Resources Conservation. He teaches natural resources management and environmental policy and politics at James Madison University, and is a Soil Health Champion in the National Association of Conservation District's network. He is a watershed restoration consultant, an environmental activist, and wrote the award-winning book, "Swoope Almanac: Stories of Love, Land, and Water in Virginia's Shenandoah Valley." He and his wife own and operate two

farms. During his talk, he emphasized the need for saving the farmlands, and advocated for incentives to be provided to farmers who put conservation easements on their properties. He also promoted the use of solar power panels and other alternative fuel sources.

A meaningful part of the annual symposium is the announcement of the winner of the Erchul Environmental Leadership Award. This year's winner is Laura McKay, manager of the Virginia Coastal Zone Management Program for the DEQ. The award recognizes a Virginian who has made significant individual efforts to improve the environment. Members of Virginia's environmental community nominate candidates who are judged based on their vision, expertise, commitment, integrity, communication skills, accomplishments, and diplomacy. The award is named for the late VMI professor Capt. Ronald A. Erchul, founder of the Environment Virginia Symposium.

McKay was recognized for conceiving and directing a range of projects that have helped save and restore critical migratory bird and wildlife habitats, increased coastal resilience, and supported oyster, eelgrass, and bay scallop restoration over her four decades of service.

Due largely to her efforts, Virginia's Coastal Zone Management program has financed dozens of land acquisition projects

protecting thousands of high priority acres, many being designated as natural area preserves, the highest level of biodiversity protection and commitment possible in the commonwealth, protecting critical migratory bird habitats.

As a long-standing member of the Management Board for the Mid-Atlantic Regional Council on the Ocean, McKay has played a key role in collaborating with other Mid-Atlantic states on shared ocean priorities. She played an integral role in developing the 2016 Mid-Atlantic Ocean Action Plan, whose purpose is to improve ocean management policies, identify additional potential offshore wind lease and aquaculture areas, safeguard important fishing areas, integrate marine mammal/sea turtle conservation, address ocean acidification and other climate impacts, and minimize use conflicts. McKay expanded the Mid-Atlantic Ocean Data Portal from about 125 interactive maps depicting the ocean environment, marine life, and ocean uses, to well over 6,000 maps.

In addition to her professional accomplishments for the environment, McKay was praised for her commitment to bringing people together, from local, state, and federal government leaders and staff to Native American tribes, nonprofits, universities, and citizen-volunteers.

"Laura McKay is a model of dedication and resilience, a creative and sharp problem solver. Her work to nurture and advance the work of others, has made her impact far larger than her career, and many generations deep," said Jason Bulluck, director of Virginia Natural Heritage Program at the DCR.

Each year, VMI donates \$1,500 to a non-profit environmental organization of the recipient's choice in their honor. McKay has requested that this donation be made to the Center for Conservation Biology at William and Mary.

Other awards presented at the symposium are the Governor's Environmental Excellence Awards, which recognize successful and innovative efforts that improve Virginia's environment. This year's gold medal winners are Canon Virginia, Inc—Recycled Toner Pellet Project; Grenova—Reusable Pipette Tips; HRSD & DC Water—Development of Next Generation Mainstream Nitrogen Removal Technology

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Laura McKay, manager of the Virginia Coastal Zone Management Program for the Virginia DEQ, receives the Erchul Environmental Leadership Award from Col. Dave Gray and last year's recipient Bettina Ring.—VMI Photo by H. Lockwood McLaughlin.

# Boxing Club Places Third in Nationals Held at VMI

By Marianne Hause

The 2023 United States Intercollegiate Boxing Association (USIBA) National Tournament was held in Cockey Hall March 23–25.

The VMI boxing club team, called the Regulators, came in third place overall. Aidan Simmons '23, assistant cadet in charge of the club, won the championship in his division. He also received the Ira Mitzner Collegiate Boxing Scholarship, awarded to a student who demonstrates the same love and dedication to the sport of boxing as its namesake. "Through blood, sweat, and tears the Regulators poured everything we had into the USIBA Nationals 2023, proving our dedication to the brotherhood both in and out of the ring. I have never been so certain that the future of the program is in great shape as we continue to work toward the next victory," commented Simmons.

Valor Boyd '24 was named best boxer of the tournament with his undefeated record of 7-0, along with a silver level academic All-American award. "We fight for those on either side of us, we fight to represent the sacrifices we and our coach have made, we fight to represent the discipline and will of the VMI cadet. We like winning, we love titles, but we walk into that ring to conquer respect, and VMI boxing made a statement at the tournament like we always do, and that is a resolute success," stated Boyd.

Jackson Miller '24 received a Fight of the Night trophy and a gold level academic All-American status. "It was a great



Valor Boyd '24 throws a punch during the USIBA National Tournament.—VMI Photo by H. Lockwood McLaughlin.



Aidan Simmons '23 has his arm raised in victory after winning the championship in his division at the USIBA National Tournament in Cockey Hall.—VMI Photo by H. Lockwood McLaughlin.



Joe Shafer accepts the Best Coach of the Tournament Award in Cockey Hall.—VMI Photo by H. Lockwood McLaughlin.

tournament. Boxing is an incredibly rewarding sport," he said.

The Regulators coach, Joe Shafer received the Best Coach of the Tournament award. "This tournament provided an excellent opportunity to highlight the team's countless hours of hard work, dedication, and discipline. The Regulators showed strength and solidarity as a team and individual fighters. I couldn't be prouder of my fighters," said Shafer.

The USIBA is the premier college boxing governing body in the country. It was formed in 2012 by college students and boxing coaches as a safe, competitive, and exciting league for their teams. USIBA was a pioneer in co-ed intercollegiate club sports, being the first to introduce a women's boxing championship.

In addition to VMI, colleges competing at the tournament included Cornell University; California

State University, Northridge; Cumberland University; Florida A&M University; Georgia Tech; Glenville State University; Grand Valley State University; University of Illinois; University of Illinois, Chicago; Lincoln Memorial University; University of Maryland; Miami University; University of Michigan; Middle Tennessee State University; Morgan State University; Parkland Community College; Southern Virginia University; Syracuse University; University of Tennessee; Towson University; Texas Southern University; University of Houston; University of California, Riverside; University of California, Santa Cruz; University of Texas Rio Grande Valley; Vanderbilt; Washington University; Western Colorado University; and Xavier University. ❄️

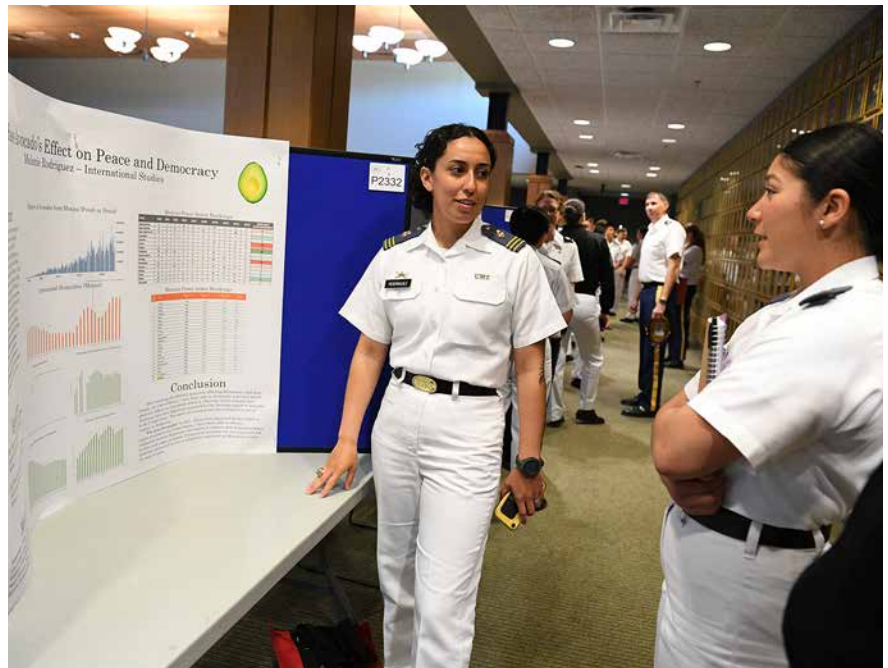




## Research on Display at URS

More than 100 cadets showcased their work at the annual Undergraduate Research Symposium in Marshall Hall April 12. Brig. Gen. Robert "Bob" Moreschi, dean of faculty and deputy superintendent for academics, offered opening remarks before cadets across all majors presented research through oral presentations and a poster session, with their faculty mentors often by their side. This year's presentations included a Women in STEM (WiSTEM) session and several posters from the WiSTEM cadets. Members of the faculty also participated as moderators for the sessions, posing questions about the research. Conner Taylor '23 and John Daniels '23 created a poster of their research on "Design and Fabrication of Ergonomic Barbell." "John and I spent 200 hours on our research," said Taylor. "We have been quiet on what we have been doing up until now, so it's great to be able to show our work."

The keynote speaker was Dr. Greg Coxson, a warfare system research engineer from the U.S. Naval Academy. The Center for Undergraduate Research has a mission to promote and facilitate faculty-mentored undergraduate research.—VMI Photos by Kelly Nye.



# Former Combat Pilot Brings Message of Courage

By Marianne Hause

VMI welcomed Amber Smith, former U.S. Army Kiowa helicopter pilot who flew into enemy fire in some of the most dangerous combat zones in the world, as she closed out the Center for Leadership & Ethics (CLE) 2023 Courageous Leadership Speaker series April 13 in Gillis Theater.

The theme of this year's speaker series was "Courage of Convictions," and according to Col. Dave Gray, director of the CLE, Smith is demonstrative of that theme. Smith is one of only a few women to have flown the Kiowa warrior helicopter, whose mission is armed reconnaissance, and requires its pilots to stay low, fast, and perilously close to the fire. She deployed to Iraq and Afghanistan as a member of the elite 2-17 Cavalry Regiment, part of the legendary 101<sup>st</sup> Airborne Division, the Screaming Eagles, where she rose to pilot-in-command and air mission commander. She is a fourth generation military family member, and author of the book, "Danger Close: My Epic Journey as a Combat Helicopter Pilot in Iraq and Afghanistan." She is a former deputy assistant to the Secretary of Defense.

Smith began by sharing that her aviation journey started long before she entered the military. She grew up as a tomboy on a rural alfalfa and timber farm in the state of Washington. Her father had a grass airstrip he used to fly his L-19 Bird Dog, a Vietnam era plane, giving her early exposure to aviation. "I absolutely loved the challenge of it. I loved the adventurous nature of it, and I even loved the danger of it. You could say aviation is in my blood," she said. Her great-grandfather was a lieutenant in the army and served in the Battle of Verdun. Her grandfather was in the Army Air Corps in WWII, and flew the aerial route between Northern Africa and Europe, and went on to fly some helicopter prototypes. Her dad was in the 82<sup>nd</sup> Airborne as a paratrooper, and later became a commercial pilot, and her mom was a civilian pilot. "I grew up thinking that all that exposure to aviation was normal, and every family sat around the dinner table while their dad explained how to recover from a stall," she quipped.



Amber Smith, former U.S. Army Kiowa helicopter pilot, addresses the audience April 13 in Gillis Theater.—VMI Photo by H. Lockwood McLaughlin.

In high school however, she focused her energy on competitive gymnastics. Once she graduated, she went to the University of Washington where she put her gymnastics skills to work, and became a cheerleader for the Huskies. At that time, she was ambivalent about what career path to pursue, but a devastating event happened that caused her to immediately make a decision: The 9/11 terrorist attacks on the United States.

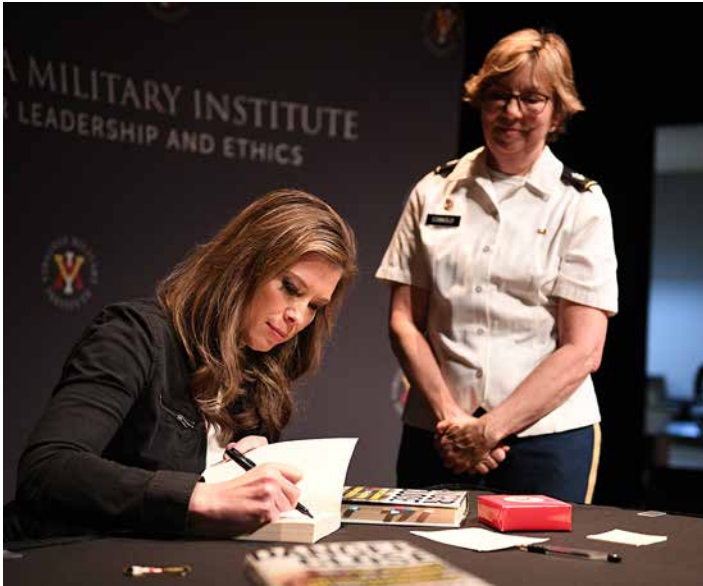
"Mark Twain said that the two most important days of your life are the day you're born, and the day you figure out why. For me in that instant, watching the twin towers fall, it became crystal clear. I wanted to serve my country, and the best way I could do that was by using my aviation experience and become a pilot. I enlisted in the Army, and was able to finish college while in the military. It was the perfect program for me, but it had one very significant catch: I had to become a helicopter pilot, and not an airplane pilot, which was my preference." She was apprehensive about pursuing that route. "My dad always said that helicopter pilots are crazy, and that a helicopter has millions of parts rotating rapidly around an oil leak, all waiting for metal fatigue to set in," she joked.

An opportunity to ride in a helicopter came when she attended an airshow in Olympia with her parents. For \$60, she was able to go on a 20-minute flight. "That's the best \$60 my parents ever spent on me. I landed and could not stop smiling. I knew that helicopters were for me."

In flight school, she was selected to fly the Kiowa warrior helicopter, one of the most sought-after helicopters. The Kiowa is a lighter sight reconnaissance platform, which carries a 0.50 caliber machine gun, and a rocket pod carrying between seven and 14 high-explosive rockets, as well as Hellfire missiles. It only has two seats, one for the pilot, one for the co-pilot. "What makes the Kiowa so special is its mission, which is providing direct support for ground forces. We provided aerial security, hunted for improvised explosive devices, and provided real-time actionable intelligence. We were able to find, fix, and destroy the enemy. No two days were alike. One day we were scouting for the enemy, and another we were searching for roadside bombs ahead of a convoy. We also observed artillery fire and escorted medivacs carrying wounded soldiers. Frequently we would get called upon to take out an enemy target. All this we did at extremely low levels, within eyesight of the enemy and within range of their weapon systems. We prided ourselves on being able to respond to a call from ground forces in minutes, with nothing but a call sign, a frequency, and a grid to get us there. The Kiowa definitely breeds a different type of pilot," she explained.

Smith confided that when she arrived to her first duty station straight out of flight school, she was terrified of failing. It was the 101<sup>st</sup> Airborne Division, the Screaming Eagles, a very historic and heroic legendary unit established during WWII, and on which the HBO mini-series "Band of Brothers" is based. "I was a 22-year-old woman in a unit that had seen very few female pilots, which were still very rare at that time, and some people didn't like that. I knew I was getting judged and tested every day. Some people there

*Continued on next page*



Lt. Col. Kim Connolly gets her copy of Amber Smith's book signed on Gillis Theater stage.—VMI Photo by H. Lockwood McLaughlin.

were just waiting for me to stumble and fail. I knew I had to work hard and show them that I was part of this mission-focused team, just like they were, and would remain for the long-run. I used my fear of failure as motivation. In those moments of doubt, I would regroup, readjust, refocus, and keep going. I didn't make excuses, I made changes. I pushed through those hard times, and it made me a better pilot, and a better leader, and it sent a message to the entire team that I was trustworthy and could be counted on when things got difficult."

Smith shared that she is proud to have worn the Screaming Eagle patch on both her left and right shoulders, and to be a part of that legacy, and the unit became her band of brothers and sisters. "I had some of the craziest experiences of my life with those people. You definitely develop unique relationships with those who serve alongside you. It's a family, which includes the good, the bad, the ugly, the fun times, and the sad times."

The following year, she was deployed to Iraq. She was flying a multimillion dollar helicopter, and was responsible for making life and death decisions very quickly. In addition to being a good pilot, she had to be a good decision maker and a good communicator. She compared her year in Iraq as 'drinking from a fire hose.' It tested her mentally, physically, and emotionally. To encourage her, Smith's father sent her a poster depicting a cartoon heron attempting to eat a frog, but the frog had its webbed hands tightly wrapped around the bird's neck to prevent it from swallowing. The caption read simply, "Never Give Up." She taped the poster to her locker as a constant visual motivation. "Every time I walked out the door to head on a mission, I would tap the poster as a reminder, that no matter how terrible things got, I would never give up," Smith said.

January 2008, she was deployed to Afghanistan as a combat veteran air mission commander with an entire war under her belt. But this war and this enemy were different. They weren't as intimidated by helicopters, and the terrain was more hazardous. Smith cautioned her audience, "All new exposures give you opportunities to learn and grow. When you get comfortable in

your job, you get complacent, and complacency kills in aviation, and it definitely kills in combat."

Smith shared a lighter story. Toward the end of her year in Afghanistan, she had a scheduled night off, but her name was put back on the flight schedule for that night. "I gave some pushback. I wanted to enjoy that night off, but was told that I would be happy about being placed back on the flight schedule, although I wasn't told why." The next day, she and the other pilots went to their hangars, curious about their mission. They were finally told that they had been selected as an armed Kiowa team to fly aerial security for President Bush in Air Force One. "We got to watch Air Force One come into sight under our night vision goggles, and it was an incredible honor to be selected for that mission. It was an incredible way to finish out my final mission in Afghanistan," she said.

She acknowledged that her journey as a small town farm girl, to flying multimillion dollar helicopters in combat, and leading missions was not easy, but that it was an incredible ride. "I made some wonderful friends, and unfortunately lost some due to the realities of war. I engaged with terrorists, the Taliban, and al Qaeda. I've been shot at, I've been in firefights, and had some extremely close calls. Those experiences in the military have had a lasting effect on my life," she declared.

After leaving the military, she entered graduate school and studied writing for two years. "I found out that I wasn't a horrible writer. I was just intimidated by it. I didn't hate it, I actually loved it, and had a passion for it," she remarked. Smith has had articles published, which led to analysis and commentary, then the publishing of her book.

To the cadets she gave closing words of wisdom, "The road less traveled is not an easy one, and it's definitely not for the faint of heart. You're going to hit roadblocks, you're going to hit potholes. You're going to have people who try to run you off the road. But if you make the decision to take some risk, and go that route and stick with it through those hard times that you will face, you will learn exactly what you are capable of, and that it will be more than you ever imagined." ❁



Mary Coady '26 shakes hands with Amber Smith after her remarks April 13.—VMI Photo by H. Lockwood McLaughlin.



### Spring FTX

Spring field training exercises (FTX) were held March 31 through April 4 with commissioning-track cadets training on and off post. Army ROTC spent the weekend at the Goshen Boy Scout Camp, while Naval ROTC Marines stayed at Sadler Farm in Rockbridge County. Air Force ROTC invited other schools to utilize VMI's obstacle courses and the Leadership Reaction Course. Navy ROTC cadets trained at Smith Mountain Lake and in Norfolk, while the Coast Guard AUP traveled to Elizabeth City, North Carolina. —VMI Photos by Kelly Nye, H. Lockwood McLaughlin, and courtesy of Sarah Robertson '23 and Gabi Woodward '24.



### Spring FTX Community Service

Non-commissioning cadets participated in community service activities in the Lexington area during spring FTX. They volunteered with organizations such as Habitat for Humanity, Waddell Elementary School, Rockbridge SPCA, Boxerwood Nature Center and Woodland Garden, and Lime Kiln Theater. Cadets also led the events during the Special Olympics' VMI Games in Cocke Hall and Cameron Hall.

The Timber Framers Club erected a pavilion at Brewbaker Field Sports Complex in Lexington. The pavilion's main beneficiary is Rockbridge Area Recreation Organization (RARO), since they use Brewbaker fields to play football, soccer, baseball, and softball. Lexington Lacrosse and other baseball and softball leagues use the complex as well. "This property had no shelter and tons of people use it. The pavilion fulfills a huge need. Parents will be able to sit out of the sun, and watch their kids play ball," said Chad Coffey, RARO executive director. In four days, with the help of 120 volunteers including cadets, VMI alumni, professionals wanting to share their knowledge, and trade school students, the project was completed.

Additionally, several cadets visited employers in the Richmond area to research career and internship opportunities. —VMI Photos by Kelly Nye, H. Lockwood McLaughlin, and Laura Shapiro, and courtesy of Cmdr. Julie Shank.



# Honors Week Highlights In-Depth Research

By Marianne Hause

First Class honor students presented their research during Honors Week, held March 20–28, celebrating the 21<sup>st</sup> anniversary of the program. Topics ranged from creating better construction materials to accommodations for learning disabilities to countries that hire private military companies. Most research took at least 18 months to complete. Some are continuing with upcoming cadets.

Colin Butler '23, a civil engineering major with minors in physics and mathematics, presented his senior thesis titled, "High Strength Fiber Reinforced Concrete and its Application in Composite Beams," in which he described the difference between high strength fiber reinforced concrete (HSFRC) and normal concrete. "Normal concrete is made when sand (fine aggregate) and stone (coarse aggregate) are mixed together with cement, which binds the aggregate together. HSFRC contains more fine aggregate and small fibers usually made of steel or polymer, instead of coarse aggregate (stone) and requires less water to mix. It is at least 1 ½ times stronger than normal concrete and has a minimum compressive strength of 6,000 psi (pounds per square inch) or more. HSFRC is regarded as the 'step' between normal and ultra-high-performance concrete (UHPC)," he said.

Using complex mathematical formulas, he designed a 3.5 inch by 7 inch beam made of normal concrete, with a half-inch thick HSFRC laminate layers on either the top, bottom, or both. "My hypothesis was that the beams with the HSFRC reinforced layers on top and bottom would withstand greater pressure than beams made exclusively of normal concrete (the control beam), as well as beams with laminate layers solely on the top, and beams with laminate layers solely on the bottom," he stated.

He built wood frames in which to pour the wet concrete to form the beams. He made a total of 12 beams, three of each type: the control, top reinforced, bottom reinforced, and top-bottom reinforced. He covered each form with burlap and allowed them to cure for 28 days. He then treated the surface of each beam with muriatic acid, which dissolves cement paste on the surface of the beam, and used a power drill with a metallic brush attachment to flick away debris in order to increase surface area, and allow for a stronger bond between the normal concrete and the HSFRC.

Butler tested the beams with an applied load in the engineering lab. The results confirmed his hypothesis, but presented revelations as well. As predicted, the top-bottom beams outperformed the other three types, but Butler was surprised that the control beam outperformed both the top reinforced and the bottom reinforced beams.

Butler concluded his presentation by recommending further research and suggested laminate thickness, rather than laminate location, be examined. He also suggested using commercially provided UHPC.

Butler presented his research, alongside Jack Cross '23, a cadet who worked on mix development of high strength concrete, at the American Concrete Institute Concrete Convention in San Francisco, California, in April.

After graduation, Butler will commission in the Army as an aviation officer. He is from Fairfax Station, Virginia, and the grandson Lloyd Thacker '59.

Like Butler, Binh Tran '23, an electrical and computer engineering major wants to build a better world, but Tran is constructing an app to help parents of children with hearing impairments. His senior thesis titled, "C# Frequency Sampling-Based FIR Filter Design," is a multi-student project, with the ultimate goal of developing an app to help parents of hearing impaired children perceive the same sense of hearing that their children hear. The app will be easily accessible and free to all who need it. The research project will span a period of six years. Tran has personally worked on it for the first three years, and a second Institute Honors scholar will continue the research next year.

Using complex mathematical formulas, Tran has developed an open-source filter that can take any arbitrary sound and modify it as dictated by any person's unique audiogram. The audiogram describes the person's ability to hear sounds at different volumes and frequencies. While this ability has been available for years to researchers using expensive software such as MATLAB and proprietary audiology hardware, Tran's contribution is to create it as an open-source project, so anyone may incorporate it into their projects for free.

Tran presented his thesis work as a technical paper at the Institute of Electrical and Electronics Engineers (IEEE) SoutheastCon 2023 in April in Orlando, Florida. His paper was peer reviewed by three professors of electrical engineering and found worthy of being published as a full-length technical conference proceeding in the professional division.

Tran has begun handing off the project to a 3<sup>rd</sup> Class cadet who will spend three years further developing the program, and will work with an audiologist at the Virginia School for the Deaf and the Blind to make the application available to audiologists throughout the country.

After graduation, Tran will commission into the U.S. Space Force as a developmental engineer. He is from Ashburn, Virginia.

Philip Argauer '23, an electrical and computer engineering major with a mathematics minor is very interested in fitness and training and also chose to work with an app. His research focused on cadet motivation with physical fitness and presented his findings in his senior thesis titled, "Increased Physical Fitness With Volt."

"Physical fitness and ROTC training are very important and crucial parts of the VMI experience," opened Argauer. He referenced the three-legged stool, and the aspects of VMI represented by the three legs: physical training, military, and academics. "Two thirds of the stool is actually applicable to this honors thesis, since fifty percent of the cadets will commission into the military, and they all have to pass physical assessments each semester."

In conducting research in the usefulness of physical fitness apps for mobile phones, Argauer referenced a study done in Finland in which teenagers were told they were getting fitness technology, and to download a certain app. They were not told that they had to use it, nor how to use it. The study centered on the effects of self-efficacy, the belief or thought process that what you do will actually change

*Continued on next page*

the outcome. What the study found is that intervention through the fitness technology app strengthened the relationship between self-efficacy and the intention of becoming more physically fit.

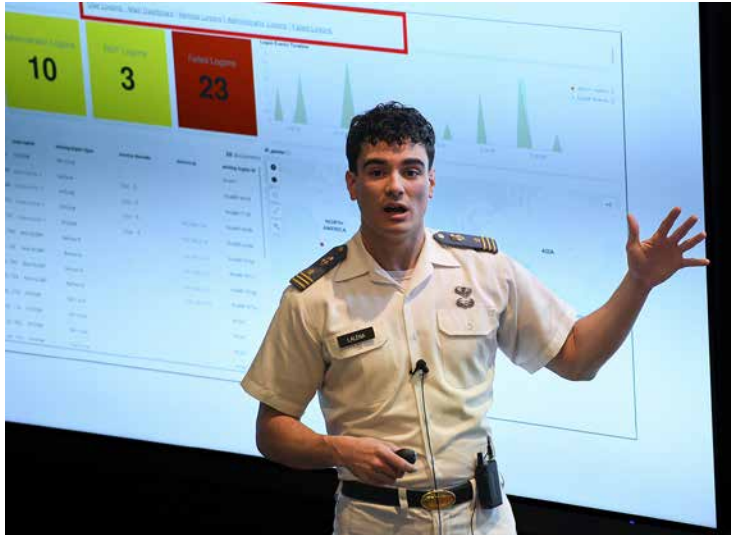
Argauer's thesis asks: Does the Volt athletics app increase the Air Force ROTC cadet exercise frequency versus non-Volt using cadets? Does Volt alter perceived benefits and barriers to exercise among Air Force ROTC cadets? What is the impact of Volt on physical fitness test scores and body composition?

He provided the app to 24 Air Force ROTC cadets, randomly placed them into test and control age-matched groups, conducting pre- and post-work-out tests, and tracked all physical training for 12 weeks during the fall semester. He collected and analyzed hundreds of exercise logs from the cadets. He found that, while the app may aid with personal workout goals for the cadets, it was not a useful tool for the pre-set ROTC physical rigors.

After graduation, Argauer will commission into the Air Force where he will fly helicopters. He is from Vienna, Virginia.

Dominick Lalena '23 an electrical and computer engineering major, also researched the cyber realm in his thesis, "Understanding Visibility as it Applies to Organizational Security through a Phased Acquisition Approach."

"You cannot manage what you cannot see," began Lalena, to illustrate the necessity of visibility in cybersecurity. "Every time you go online, you enter the cyber realm. For security purposes, an organization should be able to see who enters their cyber space." He explained information technology (IT) and operational technology (OT) in organizations and industries have become linked, or converged. "If a hacker gets into your computer system, not only can information be stolen, but there may be physical ramifications," he said. He gave two examples of cyber-attacks which have affected physical infrastructure: In 2017 in Ukraine, malware called "Industroyer" infiltrated the computer system, then caused people to go without power and water; and in 2021, a hacker attempted to poison the water supply in Oldsmar, Florida,



Dominick Lalena '23 presents his research in cybersecurity in Scott Shipp Hall during Honors Week.—VMI Photo by Lexie West.

ly. Many security software products on the market are confusing, and the information displayed on the dashboard of the computer monitor often takes time to interpret," he explained. He also cited redundancy as an effective tool. "The more messages received from different data sources, the quicker organizations can detect that there is a problem."

Lalena would like his work continued to further understand capabilities and limitations of security software, and to further explore best practices for threat investigation.

Lalena also presented part of his thesis work as a technical paper at the IEEE SoutheastCon 2023.

After graduation, Lalena will commission into the U.S. Army Reserves. While in the Reserves, he will be working as a software engineer for Boeing in their F22 program. He also plans to attend graduate school online.

Nick Schaefer '23, an international studies major, minoring in national security, wanted to see if there is a pattern in behavior of states that use private military companies (PMC) as military providers in his thesis titled, "Picking up the Slack: Why Non-Democratic Regimes Rely on Private Military Companies to Fight Their Wars."

Schaefer stated that if a state's military organizational practices are good, they will have a good military, and if they are bad, they will have a bad military, either by accident, or by design. Non-democratic regimes, personalistic regimes (one person holds



Nick Schaefer '23 discusses non-democratic regimes' military practices during his Honors Week presentation in Scott Shipp Hall.—VMI Photo by Lexie West.

See Honors Week, page 22

# The Sounds of VMI Heard Across the Country

By Marianne Hause and Col. John Brodie

VMI bands and vocalists continue to gain the love and respect of audiences as their recent travels took them to several places around the country.

The Regimental Band and Pipe Band traveled to New Orleans, Louisiana, to perform in the Krewe of Endymion, the largest Mardi Gras parade in the city. This year marks the 15<sup>th</sup> time since 1992 that the bands have appeared in the parade. The seven mile long parade boasted 81 floats, 45 bands from all over the country, and lasted five hours. Thanks to the 437<sup>th</sup> Airlift Wing headquartered at Joint Base Charleston in South Carolina, the cadets flew from Roanoke to New Orleans on a C-17.

During spring furlough, 30 members of the Glee Club traveled to Florida. The cadets performed at several different venues along the way. In Ocala, Florida, they performed at

The Villages for the local alumni chapter, organized by William “Fritz” Neil ’76. Jose Corpuz ’89, a Disney imagineer, made it possible for the group to spend a day at Disney World. Corpuz works with cadet engineers as a mentor as they depart VMI for the civilian workforce.

Members of the pipe band took a meaningful trip to West Nashville, Tennessee,



Members of the VMI pipe band pose together just before the funeral of Mike Hill in Nashville, Tennessee.—Photo courtesy of Adam Gild ’24.

and played at the funeral of Mike Hill, the 61-year-old custodian at the Covenant School and Covenant Presbyterian Church, on April 4 at Stephens Valley Church. Hill was one of six victims of the mass shooting at the school on March 27. Adam Gild ’24, a cadet from Nashville, attended elementary and high school down the street from the Covenant School, where many of his friends attended. As soon as Gild heard about the school shootings, he contacted his friends in the tight-knit community to offer the music of the pipe band for any of the memorial services of the victims. Under the direction of Maj. Brian Donaldson, the pipe band played “Amazing Grace” as the procession followed Hill’s casket out of the church at the conclusion of the service. According to Gild, nearly 2,000 people were in attendance, and the band kept playing until everyone exited. 🦋



The Regimental Band and Pipe Band perform in the Krewe of Endymion parade in New Orleans.—Photo courtesy of Col. Jon Brodie.



## Novelist Brings Advice on Fiction Writing

Critically acclaimed novelist Eli Cranor visited VMI in mid-April to give a reading from his new novel, “Ozark Dogs.” Cranor is also the author of “Don’t Know Tough,” which was named one of the Best Crime Novels of 2022 by The New York Times and has been nominated for the Edgar Award. Cranor emphasized to the cadets the importance of discipline and perseverance to writers, connecting those qualities to his own history as a college quarterback. Cranor also met with cadets in ERH 223: Genre Studies—Fiction, taught by Lt. Col. Polly Atwell. Cadets in this course study the conventions of fiction and practice writing in the genre, with an emphasis on the process and techniques of original composition. Cranor talked about crafting voice, part of characterization, and also had the cadets practice writing six-word stories. Atwell notes, “This was a great opportunity for cadets to interact with a respected up-and-coming writer and to see that literary artists can come from many different places and backgrounds.” The reading was sponsored by VMI’s chapter of Sigma Tau Delta, the International English Honor Society; the Department of English, Rhetoric, and Humanistic Studies; and the Dean’s Academic Speakers Fund.—VMI Photo by H. Lockwood McLaughlin.

# Rifle Team Represented at Junior Olympic Championships

By Col. Denise Loring

A select group from the Keydet rifle team traveled to Colorado Springs, Colorado, in mid-April to compete in the air rifle matches at the Junior Olympic Rifle Championships (JORC), held at the Olympic and Para-Olympic Training Center. The four Keydets had one day of training, followed by two matches against top competitors in the country.



Christopher Hicks '24, Ryan Harlow '25, Laini Morgan '25, and Michael Annesi '25 take a moment to pose during their trip to the Junior Olympic Rifle Championships.—Photo courtesy of the VMI rifle team.

Michael Annesi '25, cadre corporal for Company A, reflected on his two matches. "I learned to control my nerves and excitement. I had to learn quickly to quiet the storm around me, ignore the last shot, and focus on the next one," he said.

For three of the cadets, this was their first match at the national level. Christopher Hicks '24 qualified last year.

Men and women competed separately and competitors were divided by three age groups: under 21, under 18, and under 15. That presented an opportunity for VMI to be introduced to young competitors who may consider attending the Institute. Head coach Bill Bither shared information about VMI and the rifle team to interested high school seniors. The team met with a high school competitor who plans to matriculate in the fall.

The process to qualify for JORC is to shoot a minimum score of 580 out of 600 possible points for air rifle. Laini Morgan '25, S3 corporal, worked hard to make the cut. "I've been training five days a week since September to improve my score, as well as competing in 10 matches throughout the season to earn this opportunity. I had to learn to control my heart rate, adjust my position, and learn the discipline it takes to shoot precision air rifle. The day of the qualifiers, I shot exactly 580, locking in my chance to shoot in Colorado."

The team met with Southern Conference competitors but, as Ryan Harlow '25 noted, the team had the opportunity to compete against other top shooters outside of the conference, including all the service academies.

Out of 116 men competing, the Keydets finished well with Hicks in 28<sup>th</sup> place, Harlow in 36<sup>th</sup> place, and Annesi in 72<sup>nd</sup> place. Morgan finished 138<sup>th</sup> of 224 women competing.

According to Bither, it was a fantastic opportunity for team members to compete at the national level. "We've already increased the number of cadets competing from last year. As the team continues to improve and become more competitive, we hope to have more cadets qualifying for future National Junior Olympic Championships." A special note of thanks from the team is extended to the commandant staff who helped with funding to make the trip possible. The Keydets open the 2023–24 rifle season on September 24 at the U.S. Naval Academy against Navy and Texas Christian University. 🇺🇸

## VMI Theatre Presents a Comedy Classic

The VMI Theatre cadet cast presented Neil Simon's comedy classic, "The Odd Couple," March 23 through March 26 in Gillis Theater. A New Yorker who recently separated from his wife moves in with his best friend, a divorced sportswriter, but their ideas of housekeeping and lifestyles are as different as night and day. The comedy revolves around their attempt to share an apartment without driving each other crazy. Oscar Madison, the perpetually broke slob was played by Ted Harris '23. Felix Unger, the meticulous and fussy photographer, was played by Matthew Frazier '23. The cast was rounded out by John Sullivan '25, Colin Nicassio '26, Byron Rivey '26, and Luke Cockerham '26 playing poker buddies Murray, Vinnie, Speed, and Roy respectively. Tori Wright '24 and Nicole M. Samella '26 played the two British Pigeon sisters, Gwendolyn and Cecily.—VMI Photo by Marianne Hause.





# Ethics Team Wins Military Ethics Case Competition

By Marianne Hause

The Ethics Team recently won first place at the Military Ethics Case Competition held at the United States Naval Academy (USNA) Stockdale Center for Ethical Leadership in Annapolis, Maryland. The competition is open to any senior military college. This year's competitors included teams from the USNA, the Air Force Academy, the U.S. Military Academy at West Point, and VMI.

Members of the team who traveled to Annapolis include Harris Burton '23, cadet in charge; Riley Shultz '24, assistant cadet in charge; Gabriele Woodward '24; and Riley Malone '25. They were sponsored by the Center for Leadership and Ethics (CLE), and coached by Col. Patrick Looney, deputy director of the CLE.

According to Burton, the Military Ethics Case Competition is the most anticipated event of the year for the team. "We spent weeks preparing for this competition. This year's case was titled, 'Nipping Toxic Leadership in the Bud.' We were tasked with developing a curriculum to identify and mitigate toxic leadership in the officer accession pipeline of our choice. We proposed an ROTC-specific curriculum based on the VMI Leader Journey that identified three lines of effort: academics, training, and assurance as the means to combat toxic leadership. Specifically, the assurance effort included 360-degree reviews (performance feedback from peers, leaders, and followers) and annual self-assessments designed to identify the



The Ethics Team members, along with their coach Col. Patrick Looney, pose with their trophy at the Military Ethics Case Competition in Annapolis, Maryland.—Photo courtesy of The Stockdale Center for Ethical Leadership, U.S. Naval Academy.

traits of psychopathy, Machiavellianism, and narcissism (The Dark Triad)," she said.

The competition model called for teams to submit a slide show presentation in advance of the competition, a 30-minute in-person presentation, followed by a 20-minute question and answer segment, where

competitors faced challenges by a group of judges, some of whom were retired military officers.

The VMI team won the competition in 2021, and were thrilled with winning again this year, with the additional honor of receiving the first perfect score given by a judge in several years. They were presented with a large trophy that will be on display on post. USNA, West Point, and the Air Force teams placed second, third, and fourth, respectively.

Burton, who graduates in May, said her experience on the Ethics Team has

been a wonderful opportunity to develop her reasoning and discussion skills, as well as making life-long friends. "Other than my roommates, my teammates are the closest relationships I have formed at VMI. They mean the world to me, and we have a lot of fun together," she said. 🌸

## Chinese Arts on Display

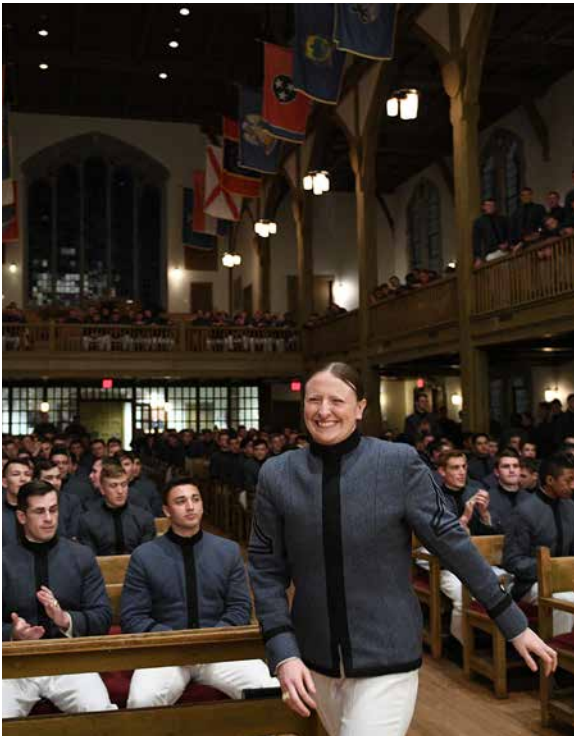
The Department of Modern Languages and Cultures hosted speakers and performers from The Center of Theater Arts Collaboration (CTAC) at Binghamton University, SUNY (State University of New York) for two Chinese cultural events in March. The first event held in Preston Library, "Chinese Ethnic Groups and Their Songs & The Art of Beijing Opera," featured Hong Zhang, former soloist of the Shanghai Orchestra and tenured instructor of Chinese and faculty member of the music department, who introduced the unique cultures of different ethnic groups in China, and sang sample ethnic songs. Linghui Tu, professor at the National Academy of Chinese Theatre Arts in Beijing, China, introduced the performing arts of Beijing Opera, including costumes, masks, props, singing, reciting, acting, and combat. The second event, "Song of Silk: A Beijing Opera and Chinese Music Concert," featured Beijing opera excerpts, vocal folk songs, and traditional Chinese instrumental music, and was held at Washington and Lee University.—Photo courtesy of the Department of East Asian Languages and Literatures at Washington and Lee University.





## 1<sup>st</sup> Class Rank Announcements

Cadets gathered in Memorial Hall the evening of March 7 as rank announcements were made for the next academic year. The cadet captains for 2023–24 are Mark Shelton, regimental commander; Paul Murray, regimental executive officer; Kate Taylor, Chief of Staff; Justin Peterson, 1<sup>st</sup> Battalion commander; Connor Carroll, 1<sup>st</sup> Battalion executive officer; Madison Cappellano, 2<sup>nd</sup> Battalion commander; Tristen Bray, 2<sup>nd</sup> Battalion executive officer; Miles Johnson, 3<sup>rd</sup> Battalion commander; Warner Collier, 3<sup>rd</sup> Battalion executive officer; Ella Flickinger, S1 captain; Virginia Townsend, S2 captain; Bryson Minear, S3 captain; Jacob Johnston, S3 communications officer; Emma Funkhouser, S4 captain; Grace Rader, S4 EMS chief; Noah Campbell, S5 captain; Carter Hugate, S6 captain; Philip Frey, S7 captain; Nicholas Hughes, Company A commander; Jack Whitmore, Company B commander; Joseph Hagan, Company C commander; Sebastian Ramirez, Company D commander; James Hebert, Company E commander; Colby Slade, Company F commander; William Torres, Company G commander; Henry White, Company H commander; Joyce Ellis, Company I commander; and Anne Townsend, Band Company commander.—VMI Photos by H. Lockwood McLaughlin.





## Retirement Parade

Belva Drain, laundry services; Col. Wes Robinson, director of information technology; Col. W. Wayne Neel, professor of mechanical engineering; Dr. David Copeland, Institute physician; Capt. John "Ned" Riester '78, professor of civil and environmental engineering; Col. Turk McCleskey, professor of history; and Col. Bob Phillips '87, chaplain, joined Maj. Gen. Cedric T. Wins '85, superintendent, to take review of the Corps of Cadets during the retirement parade April 21. The retirees were honored for more than a combined 200 years of distinguished service to the Institute. —VMI Photos by H. Lockwood McLaughlin and Kelly Nye.



## Poetry Night

The Modern Languages and Cultures Annual Poetry Night hosted more than 150 cadets, faculty, and guests. There were recitations in Arabic, French, German, and Spanish. Several cadets, like Helena Ly '23, recited poetry in Chinese, as well. Highlights of the evening included three cadets singing, several cadets and faculty reciting their own poetry, and Col. Don Sunnen closing the evening as he led a group song in German. —VMI Photo by Kelly Nye.



# POST BRIEFS

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## Professors on With Good Reason

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Lt. Col. Mark Boonshoft and Lt. Col. Jochen Arndt, both associate professors in the history department; Lt. Col. Julie Phillips Brown, associate professor in English, rhetoric, and humanistic studies; as well as Col. Barry Cobb and Col. Jeff Smith, professors in economics and business, have been featured on the public radio program *With Good Reason* during the spring semester. On the show "Save the Small Sums," Boonshoft discusses literacy tests that denied many African Americans the right to vote during Jim Crow. Arndt discussed the complex histories of the Zulu

and Xhosa peoples of South Africa, including the violent clashes between them in the 1990s on the show "Dividing Lines." Brown was featured in the "Writing Through" episode and highlighted themes of biology, mythology, and motherhood in her poetry. The episode titled "Aging Well" features Cobb and Smith providing guidance on paying for retirement and the best age to start drawing Social Security. Audio files of full programs and companion news features are on the *With Good Reason* website, [www.withgoodreasonradio.org](http://www.withgoodreasonradio.org).

## VMI Wins First SMC Ethics Bowl

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VMI walked away with the trophy and a cash prize at the first Senior Military College Intercollegiate Ethics Bowl hosted virtually by the University of North Georgia March 25, after only a few short weeks to prepare as a team. Kyle Dargis '24, Benjamin May '24, Aaron Metz '25, and Luke Rose '24 presented arguments on whether combat soldiers should be required to take performance-enhancing drugs. They also discussed

emerging technologies and how they are affecting the future of warfare, arguing whether or not decision makers should make use of FICINT (fiction plus intelligence). The VMI team was coached by Dr. Reshef Agam-Segal, associate professor of English, rhetoric, and humanistic studies, and Cmdr. Julie Shank, operations, plans, and training in the commandant's office.

## English Honor Society Inducts New Members

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On April 17, the Department of English, Rhetoric, and Humanistic Studies (ERHS) inducted nine English majors as members of VMI's chapter of Sigma Tau Delta, the International English honor society: Joshua Cheung '24, Kolton Dobson '23, Declan Franklin '23, William Garbett '24, Brayden Jones '24, Joseph Kane '25, Michael Lawrence '23, Brian Pritchard '25, and Greta Shank '25. Current members, ERHS faculty, and 4<sup>th</sup> Class English majors gathered to celebrate the inductees' academic achievements.

Kaylee Brennan '23, president, and Rachel Mininger '23, vice president, presided over the induction. Lt. Col. Steve Knepper is the chapter's faculty adviser. VMI's chapter of Sigma Tau Delta has a tradition in which each inductee recites a poem at the ceremony. This year featured recitations of new members' original poems as well as poems by Robert Frost, Langston Hughes, Emily Dickinson, and others. Lt. Col. Catharine Ingersoll gave the opening remarks at the ceremony.

## Cadets Compete Well in Sanremo

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A team of cadets enjoyed success when they traveled to Sanremo, Italy, in late March to participate in the annual International Competition on the Law of Armed Conflict. The competition draws cadets from military academies all over the world and is hosted by the International Institute of Humanitarian Law. This year, 76 cadets competed from 16 different nations. Members of this year's team were Ridge Clark '23, Fatoumata Diallo '23, Cassidy Dufour '23, Katie Lloyd '23, Brandon Marks '23, and Justin Miller '23. The cadets worked in mixed teams alongside those from other

academies to advise on the law pertaining to a fictional conflict scenario. The cadets spent several months prior to the trip becoming experts in humanitarian law, under the guidance of Maj. Tim Passmore, assistant professor of international studies. VMI walked away with three awards, the most it has ever won. Dufour, an international studies major, won 2<sup>nd</sup> place overall in the individual category, while Miller won 4<sup>th</sup> place. Dufour also won 2<sup>nd</sup> place in the team category for her work alongside cadets from the German Air Force and the U.S. Coast Guard.

## Passport Grant Makes Global Learning More Accessible

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VMI has been selected by the Institute of International Education (IIE) to receive an IIE American Passport Project grant that will enable up to 25 cadets to obtain a U.S. passport and support their study abroad journeys.

IIE is removing an initial financial barrier for many—the cost of a U.S. passport; thereby, helping to increase diversity and inclusion of students studying abroad. In addition, the grant is intended to support the IIE

network, IIE's global membership association, in assisting students from their respective campuses to go abroad, who would otherwise not participate in an international experience as part of their college education. The program prioritizes first-year students with limited financial means, for whom this may be their first passport, and makes global learning abroad a greater possibility with an earlier start. VMI is one of 48 grantees.

## Cyber Research Collaboration Helping Dairy Farmers

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A collaboration of farmers, along with experts in computer science, agriculture, and cybersecurity is bringing VMI cadets and graduate students from Virginia Tech on board to improve the cybersecurity infrastructure and workforce development on dairy farms. The efforts are supported by the Commonwealth Cyber Initiative in Southwest Virginia. With agriculture being a very large private industry, it faces similar risks to large corporate organizations when it comes to the technology that collects data and

automates the processes. By creating training tools and safety features for dairy farmers, this research team can help prevent supply chain issues or other significant economic impacts for the farms. 🌾

all the power), and military dictatorships, all who have increased threats of a violent coup followed by a violent transition of power, instill measures to prevent a coup from taking place, which is called “coup proofing.” They purposefully maintain a poor state military incapable of pulling off a coup. “Enter the PMCs,” declared Schaefer. He continued, “PMCs are private entities with resources and power to provide various military services such as logistics and support, advising and training, and fighting on the frontlines. PMCs can be employed by an independent third party or by the state government.”

Schaefer hypothesized that if a state engages in military organizational practices that are harmful to its military, it will use PMCs in combat operations. Two case studies he discussed were Russia, a non-democratic regime, who has hired the Wagner Group to engage directly in combat in the war in Ukraine; and Mexico, a democratic state, who only uses PMCs in non-combat support roles in their battle against the drug cartels.

Schaefer concluded his presentation stating that states that have poor military organizational practices are more likely to hire PMCs for combat operations, while states with effective military organizational practices may employ PMCs, but relegate them to roles away from combat, such as logistical operations, and advising and protective details. “These findings can be used to better understand our next war. Understanding how our enemy may fight will give us an opportunity to better prepare for it.”

After graduation, Schaefer will commission into the U.S. Army as an infantry officer with a military intelligence branch detail. He is from Leesburg, Virginia.

Claire Curtis '23, a biology major who is minoring in history and chemistry, began her senior thesis titled, “Learning Differences at VMI” by acknowledging, “I am a 1<sup>st</sup> Class cadet here at VMI, and I have dyslexia.”

To a captivated audience, Curtis shared that the U.S. Department of Education defines a learning difference as being “A disorder in one or more of the basic psychological processes involved in understanding or in using language, spoken or written, which may manifest itself in an imperfect ability to listen, speak, read, write, spell, or to do mathematical calculations.”

Curtis then focused her discussion on two fairly common learning differences: ADHD, a neuropsychological disorder characterized by hyperactivity, inattention, and impulsiveness; and dyslexia, a neuropsychological disorder personal to Curtis, and characterized by issues in reading, writing, and understanding written language, and affects 20% of the population. She postulated that because the two are the most prevalent learning disorders, there may be a number of students with one or both at VMI.

Curtis shared that her parents believed her capable of reading at the age of four, but she had only memorized the story books that her parents had read to her. They became aware of a problem when she was off by a page, but told the story verbatim. She was officially



Claire Curtis '23 discusses her findings in learning differences during her Honors Week presentation in Scott Shipp Hall.—VMI Photo by Lexie West.

diagnosed with dyslexia when she was in 3<sup>rd</sup> grade. However, she is considered to be a twice-exceptional learner, that is a student who has both a high cognitive ability and who has a learning disorder, which is why she is an honors student at an exceptionally challenging senior military college.

Curtis cited federal and state laws currently in place that prohibit discrimination, and allow accommodations for students with learning differences. She examined several colleges and universities in Virginia, such as George Mason University, James Madison University, Randolph-Macon College, University of Virginia, Virginia Tech, and Virginia Commonwealth University, that all offer between three to six different accommodations. But according to Curtis, using accommodations for learning differences disqualifies one from enlisting or commissioning, as well as attending a military college. “VMI’s accommodations include assistive technology, priority registration, extra time on tests, a separate testing location, and academic assistance. I compared those accommodations to what is offered at The Citadel, a college very similar to VMI. Their accommodations include learning assistance, a test-taking center, assistive technology, peer note-takers as well as note-taking alternatives, and priority registration. Like VMI though, they cannot accommodate those who are commissioning,” she explained.

Curtis spent much of the year researching, reviewing, and interpreting brain scans, and seeking best practices at places of higher education with regard to learning differences. She sought to educate and advocate, and identified ways to further support VMI cadets with learning differences, including additional funding for programs and support staff.

After graduation, Curtis hopes to commission into the military and attend medical school. She is from Louisville, Kentucky.

*Continued on next page*

The last cadet to present his thesis during Honors Week was Brandon Marks '23, an international studies major. His thesis on microfinance was titled, "The Impact of Domestic Context on Microfinance Provision and Effectiveness."

Marks told two stories. The first about a woman named Jacqueline from a poor province in Rwanda. She had lost her siblings from disease and war, but she had a dream of starting a sewing business to take her family out of poverty. She took out a \$100 microfinance loan, co-signed by eight other women, and bought a sewing machine. Six microfinance loans later, her business began to expand and became profitable. Once unable to provide schooling for her children, Jacqueline successfully lifted her family out of poverty, sent her daughter to college, and hired tutors for her three sons. Marks quoted Jacqueline as saying, "The loan changed my life."

The second story was about a woman named Madhuka from Sri Lanka, who had a similar dream as Jacqueline's. She wanted to start a mat making company to lift her family out of poverty. Unbeknownst to her husband, she took out a \$425 microfinance loan and started the company. However, when the rains came down and flooded the streets that she needed to sell those mats, she could not make the \$30 monthly payment. Her husband panicked when he found out, and she fell into despair. In the dark of night, she went outside and poured kerosene over herself and lit herself on fire. Hearing her screams, her husband rescued her and took her to the hospital. Even at the hospital, the microfinance loan officers came to her bedside and demanded payment for the loan.

The two very different stories led Marks to his research question: How do domestic factors influence microfinance provision and effectiveness?

He stated that worldwide poverty affects nearly 698 million people, or 9% of the global population. "Roughly 2 billion adults across the world are unbanked, meaning they cannot apply for a loan. Microfinance is a tool that provides a way for people to take themselves out of extreme poverty, and build a new life for themselves and their families," he stated.

Microfinance provides capital in the form of small loans with high interest rates, joint liability, and no collateral, with the goal of creating entrepreneurship, productivity, and social capital in borrowers. Proponents of microfinance say it reduces poverty,

uses capital for entrepreneurial pursuits, and increases economic growth, as seen in the success story of Jacqueline. Opponents of the practice though say it is a debt trap, demands high interest rates, and tends to saturate the market with similar businesses. Marks discovered that 50% of households eligible for a loan choose not to get one because they perceive it as a risky endeavor, are unwilling or fear going into debt, and see the cost of the loan as too high.

Theorizing that high trust and regulation would lower the perception of risk for the borrower, Marks' hypothesis for his research project was, "All else equal, countries with a higher societal perception of regulatory quality should experience greater levels of microfinance provision." After much research and statistical analysis though, he found that his hypothesis is suggested to be wrong. He found that the opposite was true, that as levels of trust and government regulations decrease, microfinance provision increases. Highly regulated and trustworthy institutions are associated with efficient microfinance operations that can offer lower interest rates to borrowers. Ironically, in areas where microfinance is most needed, institutions are the least efficient and loans are the most expensive, putting borrowers at risk. On effectiveness, Marks notes that market saturation of similar businesses has a strong impact on microfinance. Countries with low regulation continue to provide business loans even after markets reach capacity, leading to hyper-competition, decreased profits, and business failure. High-regulation countries provide fewer business loans and more household loans to avoid market saturation. To effectively reduce poverty, Marks argues government and microfinance institutions should regulate lending to prevent market disruption and indebtedness among borrowers.

After graduation, Marks will enter the field of real estate development. He is from Staten Island, New York.

Other members of the Class of 2023 who presented their honors thesis include Conor McCarthy, Jack Cross, William Caulfield, Chris Cocoris, London Yerasimides, Holly Hein, Harris Burton, Noah Kelley, Sam Wolfe, Scout Ripley, James Boyle, Cassidy Dufour, and Fatoumata Diallo.

Additional activities during Honors Week included inductions into honor societies: Tau Beta Pi, Phi Alpha Theta, Pi Tau Sigma, Gamma Sigma Epsilon, Eta Kappa Nu, Pi Delta Phi, Phi Sigma Iota, Sigma Delta Pi, Pi Sigma Alpha, Sigma Tau Delta, Sigma Pi Sigma, Beta Gamma Sigma, and Omicron Delta Epsilon.

On March 24, special activities were held to further commemorate the Honors Week anniversary. Preston Library held an open house featuring Institute Honors Theses from 2002 through 2022 and artifacts from the VMI Archives. Col. Keith Gibson '77 hosted VMI Museum tours, the S5 staff conducted post tours, two honor seminars were held, alumni and guests were invited to attend class and have lunch with the current Honors cadets, and Brig. Gen. Bob and Mrs. Moreschi hosted an open house in the historic dean's quarters. The entire Corps of Cadets marched in a parade, and a closing reception was held in Moody Hall lounge. ❀



Emma Nobile '17 joins Kyle Dargis '24 and Justin Peterson '24 for class in Maury-Brooke Hall during the Institute Honors Program 21<sup>st</sup> Anniversary Celebration.—VMI Photo by Kelly Nye.



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## Environment Virginia *continued from page 7*

through Partial Denitrification-Anammox; Henrico Doctors' Hospital—Sustainability in Health Care: Recycling and Low Flow Anesthesia; and Blackwater Park—Beechtree Group, LLC, City of Franklin, and Virginia Outdoors Foundation.

Silver medal winners are Hampton City Schools—Oyster Restoration Project; Roanoke Cement Company, Troutville Plant—Sustainability Program; and the University of Virginia—Greening of Government.

Receiving bronze medal awards are Fairfax County's Solid Waste Management Program—Purple Can Club Glass Recycling Program; The Tides Inn—Shoreline Restoration Project;

Christopher Newport University & City of Newport News—Town and Gown Partnership: Solving Sustainability Together; University of Virginia—Sustainable Labs Program; and Newport News Waterworks Department—Grafton Ponds Extension.

Receiving honorable mention is Worthen Industries: UPACO Adhesives Division—Worthen Sustainability Program.

Next year's Environment Virginia Symposium is scheduled for April 9–11 at VMI. 🌿



Guests and vendors fill the Hall of Valor during the Environment Virginia Symposium.—VMI Photo by H. Lockwood McLaughlin.