

illumiNation

An abstract illustration featuring a person in a teal shirt with a hand near their face. A black, irregular shape containing binary code (0s and 1s) is positioned in the lower left. The background is a textured, light beige color with scattered black dots and shapes.

Virginia Tech College of Liberal Arts and Human Sciences

VOLUME TWO // 2018-2019

WATCHING^{THE} DETECTIVES

Cold Case Files, Missing
Person Investigations,
and Other Adventures
in Discovery

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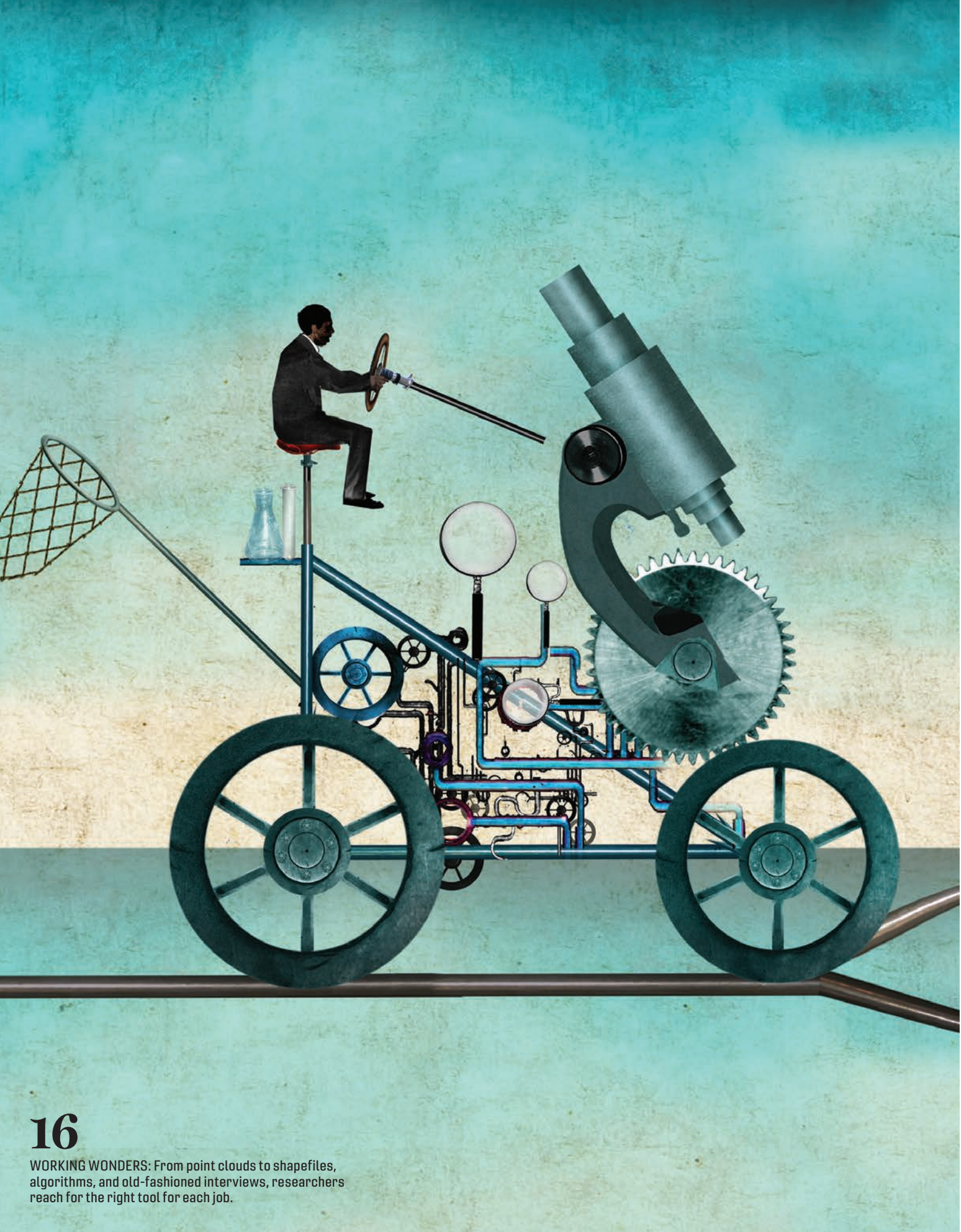
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The Discovery Channel



I'M A GERONTOLOGIST WHO studies the family and friend relationships of older adults. We teach students about *heterogeneity*—as people go through life, choosing diverse pathways and experiences, they become more differentiated from one another. Some people have large families and many friends, while others are socially isolated. Some people retire in

their 50s; others work into their 80s. Health and wealth vary, interests diverge, personalities can be sunny or glum.

With all this complexity, we also teach our students about the dangers of assumptions, the importance of nuanced detective work, and the need for a range of investigative tools. We learned long ago that discovery for our students—and for ourselves—is rarely through just one channel.

Two of my colleagues in the Department of Human Development and Family Science—Karen Roberto and Tina Savla—and I study the challenges families face in helping loved ones manage memory loss. We knew from previous research that caregiving for someone with advanced memory loss, such as Alzheimer's disease, is difficult and stressful. But at the early stage of forgetfulness, called mild cognitive impairment, the diagnosed person usually needs some guidance and assistance from care partners, not intensive caregiving. Still, we wondered about the effects of early memory loss on everyday life.

During interviews with spouses and adult children of people with mild cognitive impairment, we heard stories of frustration mixed with the instinct to be respectful. We saw that even early memory loss can be disruptive in many ways, which seemed to bother some care partners more than others. So we took our research a step further by asking care partners to collect saliva samples five times a day for a week. We analyzed those samples for cortisol, a hormone that responds to stress, and found that even when the care partners did not report high levels of worry or anxiety, their bodies were responding as if they were very stressed. This hidden information is important, because if daily cortisol patterns are disrupted for too long, the caregiver can become ill.

This research is just one of the many initiatives that faculty and students pursue across our college. Every day, we detect hidden information, uncover unexpected research findings, and solve challenging riddles, all for the benefit of humanity. We invite you to discover in this issue the many paths we take.

Rosemary Blieszner

Rosemary Blieszner
Dean, College of Liberal Arts and Human Sciences



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In Brief

Around the Drillfield and Beyond



FUTURE FORECASTING:
Sylvester Johnson,
a professor in the
Department of Religion
and Culture, focuses his
own research on
humanity in the age of
intelligent machines.

An Accent on Humanities

Automated drones, driverless cars, and intelligent robotics are all marvels of technological ingenuity, yet insights from the humanities are needed to understand their full impact, according to Sylvester Johnson, Virginia Tech's assistant vice provost for the humanities.

"As advancing technologies continue to transform modern life," Johnson said, "the consequences for humanity only heighten the overarching significance of humanities research and teaching."

Johnson, an award-winning scholar engaged in exploring humanity in the age of intelligent machines, has launched a new, forward-thinking center with just that focus. The Center for Humanities, based in the College of Liberal Arts and Human Sciences, reflects Virginia Tech's commitment to elevating the presence and profile of humanities disciplines across the university.

The center builds on collaborations across the university, where historians already work with computer scientists to gain insights into deadly epidemics, philosophers work with engineers to detect patterns in nature, and literary scholars engage in iconic moments of space exploration.

These areas of inquiry, Johnson said, show that the moment of the humanities is not behind us, shimmering in a now-forgotten golden age, but before us. "After decades of handwringing over whether the expansion of technology threatens the relevance of the humanities," he said, "we're beginning to witness our technological age pushing big humanities questions to the forefront of our most urgent concerns."

"What's at stake in the rapid advance of digital technologies is literally what it means to be human."

NEW ORIGINALS

AMAZON'S DECISION in November to locate one of its headquarters in Alexandria, Virginia, was based in part on Virginia Tech's track record of molding future leaders, thinkers, and innovators with educational depth complemented by interdisciplinary know-how.

An initial focus of Virginia Tech's Innovation Campus, to be located less than two miles from Amazon's new site, will be on computer science education to meet growing industry demands. Yet humanities and social sciences will play key roles as well.

"The Innovation Campus is happening as we are launching the 'Tech for Humanity' initiative," said Sylvester Johnson, director of the Center for Humanities. "This university-wide initiative focuses on human-centered approaches to technology, because technology must be guided by human interests, and one of Virginia Tech's goals is to serve humanity."

"In an age of big data, Virginia Tech is delivering big humanities—humanistic approaches that support a comprehensive university."



BREAKING NEW GROUND: An artist's rendering of the Innovation Campus hints at the vibrancy to come.



THOUGHT IN ACTION

A NEW INTERDISCIPLINARY major at Virginia Tech fosters high-level critical thinking to arrive at solutions that are not only economically sound, but also socially, ethically, and politically informed. The philosophy, politics, and economics major is a collaboration across three departments.

“The major attracts driven students in the humanities and social sciences who have a genuine interest in working across disciplines and a desire to engage with cutting-edge, socially relevant research,” said Michael Moehler, an associate professor of philosophy and director of Virginia Tech’s Program in Philosophy, Politics, and Economics.

Moehler cites Nicholas Work as the embodiment of the interdisciplinary spirit of the program. Work, who graduated from Virginia Tech in 2018 with degrees in business management and political science, is now a master’s student in the Department of Political Science, where he researches the dynamics of the sharing economy.

“Our students read thinkers such as Aristotle, Plato, Thomas Hobbes, David Hume, Adam Smith, and Immanuel Kant, who all have identified something essential about the human condition that transcends time,” Moehler said. “The philosophers’ ideas were relevant for their own generations, and they are relevant today.”

The Spirit of Tech

After years of experience with marching bands, Polly Middleton is well-versed in homecomings. And now she’s had a homecoming of her own as she re-joined The Marching Virginians.

For five years, Middleton was the associate director of athletic bands at Virginia Tech, where she also served as assistant director of The Marching Virginians and director of the Hokies Pep Band.

In July 2018, she became only the fifth director in the 44-year history of the 330-member-strong marching band, also known as The Spirit of Tech.

After leaving Virginia Tech in 2016 to gain more leadership experience, Middleton spent one year as director of athletic bands at Arkansas State University, then another as director of Illinois State University’s marching band. Her more recent position was particularly gratifying because the university is in her hometown of Normal, Illinois.

Deciding to leave that position was difficult. But the draw of the Hokie Nation proved irresistible.

“I had fallen in love with Virginia Tech and The Marching Virginians,” she said. “I love what they represent. And Blacksburg feels like home.”

Middleton began her own musical career with the instrument perhaps least suited for a marching band: the piano. When she switched her focus to her second instrument, the French horn, she became mobile—and inspired.

“As soon as I joined my college marching band,” she said, “I knew what I wanted to do with my life—be a band director.”

At Virginia Tech, she’s excited to get back together with the band.

“Marching bands promote an aspect of community unique to performing ensembles,” she said. “There is participation from students across majors and across colleges. These students are passionate about

supporting their school and providing the best atmosphere possible for each game.

“To be able to continue the legacy is an honor, both daunting and exciting at the same time,” she added. “This is my dream job.”

“To be able to continue the legacy is an honor, both daunting and exciting at the same time.”



TAKING THE FIELD: Polly Middleton has become the first woman to direct the 330-member-strong Marching Virginians.



TWIST AND SHOUT: The iconic band needs little introduction, even decades after its musical reign, but—just in case—the Fab Four are, from left, Paul McCartney, Ringo Starr, John Lennon, and George Harrison.

and put it out into the world for readers to learn from and enjoy. It’s the quintessential hands-on, minds-on project, and I applaud the students for the excellent volume they completed.”

Welcome to the Beatles explores the band’s enduring significance, with emphasis on media, race relations, gender, and globalization.

“Over the years, the Beatles have been analyzed exhaustively from nearly every angle, but these students bring their own perspective,” Stephens said. “Having come of age generations after the Beatles’ heyday, the authors were able to reexamine the band with the benefit of historical distance.”

The publication is now freely accessible online as an electronic book through VT Publishing—the scholarly publishing arm of Virginia Tech—and available for purchase as a print book through Amazon.

“I was passionate about this project because it enabled our class to practice so many real-world skills,” said Andrew Pregnall, lead editor of the project and a senior pursuing a dual degree in microbiology and history. “All of these experiences could be useful in someone’s future, regardless of career path.”

Meet the Beatles, Again

Explorations of the Beatles’ legacy have long been here, there, and everywhere. And yet, with a little help from their friends, Virginia Tech history students have managed to compile fresh analyses of the iconic band’s long and winding road in a new book, *Welcome to the Beatles*.

The students collaborated on the book as part of an advanced class taught by Robert Stephens, an associate professor of history.

“The future of higher education is giving more ownership to our students,” Stephens said. “This project allowed them to write, edit, and publish their own book

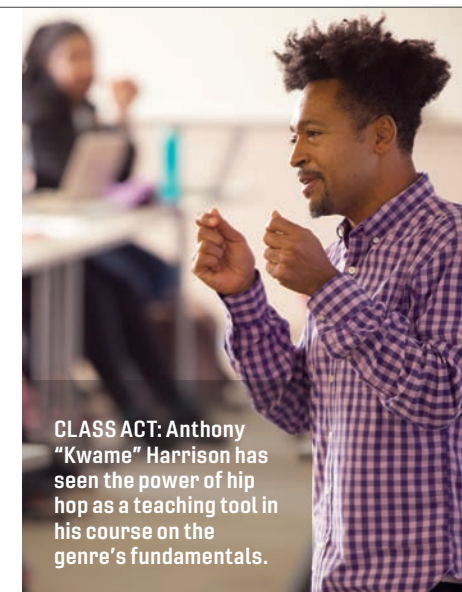
LESSONS FROM HIP HOP

HIP HOP IS INCREASINGLY being used as a teaching tool, a trend underscored in a recent exhibit on the decades-long history of the music genre at Virginia Tech.

“Hip hop reflects the ingenuity of working class, marginalized, and black and brown youth,” said Anthony “Kwame” Harrison, the Gloria D. Smith Professor of Africana Studies. “Against all odds it’s established its presence in our most prestigious institutes of higher education, including Harvard, Cornell, Stanford, and Virginia Tech. We need to recognize this and celebrate it.”

Harrison noted that hip hop can aid in experiential learning. The genre’s practice of using consumption as a stimulus for creative production, such as sampling old records to create new songs, is exactly what many instructors ask their students to do.

“Once students realize and embrace the parallels between hip hop and their college education, it can change their whole orientation to learning,” Harrison said. “Suddenly they find themselves gaining traction on topics that once didn’t interest them. And knowledge begets more knowledge.”



CLASS ACT: Anthony “Kwame” Harrison has seen the power of hip hop as a teaching tool in his course on the genre’s fundamentals.



SPORTS MEDIA BOOST

AS A BOY GROWING UP IN Charlottesville, Virginia, Will Stewart could never have imagined rooting against his hometown’s collegiate teams. Once he reached his teen years, though, whenever the Cavaliers battled the Hokies, the colors he bled were maroon and orange. The founder of TechSideline.com, a website devoted to Virginia Tech athletics, Stewart is once again rooting for the university, but this time for its winning academics.

Through Tech Sideline, Stewart has pledged \$100,000 over five years to create an endowed scholarship in the Virginia Tech Department of Communication. The scholarship will support students in the sports media and analytics program.

“I’ve been impressed with both the talent and passion of the students, who are just rock stars,” he said. “And I’m thrilled that Bill Roth is providing the mentorship they need to become the next great sports journalists.”

Roth, who gave radio play-by-play for Virginia Tech football and men’s basketball for 27 years, joined the department’s faculty in 2016.

“I was driving when Will told me he wanted to fund a scholarship for our sports media students,” Roth said. “I nearly drove off the road. What an amazing idea! And now the scholarship will help us recruit and retain students with the greatest promise.”

Student of the Year

The four years that Maria Jernigan spent at Virginia Tech exploring ways to make learning more meaningful for high school students led her on a journey of academic excellence, culminating in two honors: the Virginia Tech Undergraduate Student of the Year Award and the College of Liberal Arts and Human Sciences Outstanding Senior Award.

Jernigan chose Virginia Tech because she wanted to pursue a nontraditional course of study, including a double major in philosophy and Spanish, and a minor in theatre arts.

Philosophy was a natural choice, she said, because she knew she wanted to explore deep philosophical questions. Spanish made sense because she wanted to travel the world and understand it better.

“Learning a second language has helped me comprehend not just how to conjugate verbs but how language can be a window into understanding how someone else thinks or views the world,” she said. “It helps create empathy.”

And in pursuing theatre arts, she said, she learned how to listen, how to be heard, and how to live in the moment.

Together these disciplines have given her the skills she hopes will help her change the world of secondary education, a desire that began in high school when she wondered why students seemed engaged in some classes, but not others.

During her time at Virginia Tech, Jernigan said, her perspectives expanded. She believes that incorporating virtual reality into a project-based educational environment can break barriers of space limitations, provide access to other ways of thinking, and motivate students to learn.

She plans to test this through her own educational startup, Red-shift Education, Inc., which has won funding through both Kickstart VT, a program of the Apex Center for Entrepreneurs, and Virginia Tech’s Institute for Creativity, Arts, and Technology.

“When I talk about re-envisioning high school education,” she said, “I’m talking about how we can empower students to thrive in the 21st century. What skills do they need? And what ideas and passions can they articulate?”

She wondered why students seemed engaged in some classes, but not others.



WATCH AND LEARN: To identify strategies for making education compelling, Maria Jernigan spent time in Finland observing project-based learning in classrooms.



SHARING TRADITIONS: Mikayla Adkins, a member of the Chickahominy Tribal Community, participated in the first intertribal powwow to be held at Virginia Tech, which sits on land once stewarded by the Monacan Nation.

Native at Virginia Tech

Virginia Tech is reaching out to Native American communities by tapping into two of its greatest resources: its students and its graduates.

Native at Virginia Tech, a student organization, has brought a new vibrancy to the university, starting in the spring of 2017, when the group hosted on campus the first of its annual powwows. Since then, the university has sought to build more robust, lasting relationships with the Indigenous communities that call Virginia home.

A key part of that work is the Virginia Tribal Initiative, an effort to recruit more Native American students with the help of recent alumni, including Mae Hey, who received her doctorate in education in 2017.

Hey, an InclusiveVT Faculty Fellow and the university’s Indigenous community liaison, travels with students in Native at Virginia Tech to visit tribes at festivals, powwows, and other events. And the students are proving to be compelling ambassadors. “Rather

than tell people about programs, it’s more effective to bring students with me,” Hey said. “It’s better to show others how awesome our students are rather than talk about it.”

Hey noted that the outreach is important beyond Virginia Tech, as the federal government has been slow to recognize Virginia tribes. The Pamunkey tribe was recognized only in 2016, and six others—the Chickahominy, Eastern Chickahominy, Upper Mattaponi, Rappahannock and Nansemond Tribes, and Monacan Indian Nation—were acknowledged even later, in 2018.

The lead organizer of the powwows agreed. “Let’s not forget the fact that we have 11 tribal communities in this state and that Tech sits on Monacan Nation land,” said Melissa Faircloth, director of Virginia Tech’s American Indian and Indigenous Community Center and a doctoral student in the Department of Sociology. “Those students should feel like this is their university, that there is opportunity here for them.”

CHILD CARE EXCELLENCE

EVERY WEEKDAY morning, as children arrive at the Virginia Tech Child Development Center for Learning and Research, the warm colors, soft lighting, natural materials, and cozy, child-sized furniture provide a welcoming environment for hours of play-based learning opportunities.

This carefully crafted ambiance goes hand-in-hand with the center’s many accolades, including, most recently, a new, five-year term of accreditation with the National Association for the Education of Young Children.

And how did the center fare in the rigorous renewal process? It excelled. In each of the 10 standards required, the center received scores of 100 percent or even higher. The average classroom rating was 99.5 percent.

“The center does more than provide child care; it also fulfills the service missions of Virginia Tech,” said Karen Gallagher, the center’s director. “By offering a model preschool program, it’s a leader for local, state, and national early-childhood-care communities in teaching, learning, and research.”

The center has also rated a Level 5 from Virginia Quality, the state’s voluntary quality rating and improvement system, making it one of only a handful of child development centers in the state to achieve the top level.



BEST IN CLASS: Kayla Lewis, a 2016 Virginia Tech graduate in psychology, now teaches at the Child Development Center for Learning and Research.

Arts + Tech

Inspired Innovation



AS YOU LIKE IT:
"Shakespeare's
Garden" immersed
visitors in sights,
sounds, and
sonnets.

Shakespeare's Garden

Imagine entering a darkened, four-story-high room, where sheer curtain panels cascading from above are illuminated in pastel greens and blues and yellows and pinks. You step inside a circle of light to read the lines of poetry flickering across the panels when suddenly you hear, in a soft, disembodied voice, "Upon those boughs which shake against the cold/Bare ruin'd choirs, where late the sweet birds sang."

That immersive sight-and-sound experience—a theatrical installation called "Shakespeare's Garden"—invited visitors to meander through the space while listening

to sonnets and plays performed by Virginia Tech students. Led by the School of Performing Arts, "Shakespeare's Garden" used the spatial-audio capabilities of the Cube, a state-of-the-art theatrical space in the Moss Arts Center.

One of the installation's five stations featured a scene from "The Merchant of Venice" recorded by Andrew Bartee, now a senior majoring in wildlife conservation, and Sara Gehl, a senior double majoring in theatre and multimedia journalism. "You pay special attention when

you know that the audience won't see you at all," Bartee said. "I've never felt more responsibility to clearly tell the story before."

The installation's project manager, Jamie Lindsay, has since graduated with a degree in theatre arts and public relations. "Shakespeare's Garden' has been a great opportunity to take what I've learned from more traditional stage management and

apply it to something entirely new," she said. "It's been a wonderful way to wrap up my experiences at Virginia Tech."

"You pay special attention when you know the audience won't see you at all."

Creativity Without Borders

The words of Denise Duhamel's poem "Mobius Strip: Forgetfulness" appear suspended in air as they weave through a cavernous room in a slow figure eight. It is easy to forget that the setting is the Moss Art Center's Cube, as the space transforms into a virtual-reality environment filled with the sentiments of memory deterioration.

"We already have the real world," said Ivica Ico Bukvic, an associate professor of creative technologies in music in the School of Performing Arts and the creator of the "Forgetfulness" project. "Let's allow humans to use all their senses in exploring the unknown."

At Virginia Tech, technology and creativity come together to allow exploration at the boundaries of science, engineering, arts, and design. Bukvic's virtual-reality project, a collaboration with School of Visual Arts faculty, is an immersive audio-visual experience designed to heighten understanding of art and memory. The team effort is just one example of the university's search to break barriers.

"Forgetfulness" is sponsored by the Institute for Creativity, Arts, and Technology,

where Bukvic serves as director of creativity and innovation. Both the institute and the College of Liberal Arts and Human Sciences—along with other transdisciplinary initiatives throughout the university—offer experiential-learning opportunities to prepare students of all disciplines to thrive in the current workforce as well as future ones.

Innovation Campus—the Virginia Tech initiative that will complement the new Amazon headquarters in Northern Virginia—is yet another example of the university going beyond boundaries, said Rosemary Blieszner, dean of the College of Liberal Arts and Human Sciences.

"The new campus will transcend traditional academic practices," she added. "It will do more than train graduate students in computer science and related fields. It will also provide students from a range of backgrounds with opportunities that ground them in transdisciplinary studies, such as in technology-inflected humanities.

"With such blending of technologies with arts and humanities and social sciences, Hokies will enter new employment markets with skillsets for pioneering real and virtual worlds."



DOWN MEMORY LANE: Rosemary Blieszner, dean of the College of Liberal Arts and Human Sciences, experiences a virtual-reality exploration of memory loss in the Cube of the Moss Arts Center.



THE TELL-TALE ART

"POE'S SHADOWS," an immersive theatrical installation, used the advanced technologies of the Cube—an experimental performance space in the Moss Arts Center—to bring the work of Edgar Allan Poe to life.

Drawing from two of Poe's best-known works, "The Tell-Tale Heart" and "The Raven," the installation explored what happens when literary texts are lifted from the page to the stage and then reimagined through the use of new technology.

Visitors to the installation heard recordings of texts curated and directed by theatre arts and English faculty members, performed by Virginia Tech students, and presented through the Cube's 150 speakers, which allowed the sound effects to permeate the space.

At the same time, the audience members watched virtual shadow puppets projected onto the Cube's 360-degree cyclorama in an update of the 19th-century tradition of "crankies," in which hand-cranked moving panoramas were used to tell stories. Movement and color—including a beating scarlet heart lodged in a stark ribcage—were sparingly and artfully applied to the black-and-white imagery.

"We know Poe. We *all* know Poe," said project manager Elizabeth Kurtzman, a master's student in English. "Poe has an aesthetic that lends itself to immersion, and it was exciting to see everything come together in this installation."

TRUE DETECTIVES

The search for truth and meaning makes sleuths of us all.

HERCULE POIROT RELIED ON HIS LITTLE GRAY CELLS.


Sherlock Holmes flaunted his flawless deductive reasoning. Lisbeth Salander uncovered clues through deft hacking, Sam Spade through sardonic bravado, and Miss Marple through murmured, seemingly guileless inquiries.

Real gumshoes have their tools of detection as well, from suspect interrogations and witness interviews to forensic analyses and online surveillance.

Investigators in the Virginia Tech College of Liberal Arts and Human Sciences are no different. They all begin with a puzzle. Sometime it's a classic whodunit, but often the mysteries they tackle are more nuanced. Historians unlock cold case files, while sociologists search for missing persons and political scientists uncover misdeeds cloaked in darkness.

They all follow a series of clues as they sniff out the truth, seek justice, and try—and fail!—to slake their never-ending curiosity.





REBELS WITH A CAUSE:
The HMS *Hermione*, captured in
this Nicholas Pocock painting,
was the site of the bloodiest
mutiny ever suffered by the
British Royal Navy.

COLD CASE FILES

Virginia Tech historians uncover clues to mysteries of the past.

Watching  the Detectives

THE CASE OF THE MURDEROUS MUTINEERS

by A. Roger Ekirch

ONE GLOOMY SEPTEMBER NIGHT IN 1797, the bloodiest mutiny in the annals of Britain's Royal Navy erupted off the western coast of Puerto Rico aboard the frigate *Hermione*. Before being heaved overboard, ten officers, including the captain, were butchered by crewmen brandishing axes and cutlasses.

Although the uprising eight years earlier on the *Bounty* is better known, the aftershocks of the carnage aboard the *Hermione* in the middle of the French Wars were far more profound, not just in Britain, but in the United States, to which many of the mutineers fled.

A number of intriguing issues arose from the bloodletting and the subsequent extradition of one of the crew, viewed as an American freedom-fighter, from the United States to British authorities in Jamaica, where he was hanged. Following outcries of injustice, the *Hermione* affair played a decisive role in Thomas Jefferson's defeat of John Adams in the tumultuous presidential election of 1800. No less remarkable, the mutiny led directly to the nation's historic adoption of political asylum for foreign refugees, thereby helping to fulfill the promise of the American Revolution to afford "an asylum for mankind."

The mutiny itself raises an even more fundamental question. Why, in the midst of war with France and Spain, did 150 crew members commit such "an unprecedented barbarity"? Certainly the radical rhetoric of the French Revolution coupled with the anti-British fervor of Irish and American seamen impressed by the Royal Navy cannot be dismissed, nor can the heat, pestilence, and cramped conditions suffered by the *Hermione's* crew, who had few opportunities for shore leave. And yet the frigate's privations were widely shared aboard other British warships.

More critical is that, seven months prior to the mutiny, the *Hermione* received a new captain, 28-year-old Hugh Pigot, whose family connections had advanced his naval career. Pigot grew notorious for administering frequent floggings. Worse, so unpredictable was the hot-tempered commander that seamen could not begin to anticipate, much less cope with, his violent outbursts.

It was scarcely coincidental that the day before the mutiny, with a squall on the horizon, the captain ordered the sails to be furled, with the promise to "flog the last man down!" After three skilled topmen, in their haste, plunged 50 feet to their deaths, Pigot coldly ordered that the "lubbers"—a highly derogatory epithet applied to inexperienced sailors—be thrown overboard.

On the morning of the mutiny, Pigot ordered more than a dozen men flogged for lethargy. The day's savagery had just begun, and its reverberations would last centuries. ■

A. Roger Ekirch, a professor in the Department of History, is the author of five books, including, most recently, American Sanctuary: Mutiny, Martyrdom, and National Identity in the Age of Revolution.



THE CASE OF THE LOCKED (AND AIRLESS) ROOM

by Melanie Kiechle

A LOCKED ROOM IN THE 1750s became a horror story for nearly a century, until science explained what happened ... and made every room scary.

In 1758, John Zephaniah Holwell published a dreadful tale of escape and survival. As a British official in India, Holwell was one of the few survivors of “the Black Hole of Calcutta.”

Two years earlier, Siraj ud-Daulah, the new nawab of Bengal, had imprisoned 146 European captives in a small dungeon room for the night. As the heat began to rise in the overcrowded cell, the men fought one another for space near the single, small window and begged the guards for water.

Holwell had a spot near the window, from which he watched as his fellow men, exhausted and overheated, stripped their clothes, lay on the ground, or trampled one another. When the doors opened in the morning, only 23 men emerged. The rest had died in the night.

Holwell’s narrative of thirst and suffocation circulated throughout the British empire and what would become the United States. For many, this horror story exemplified Indian inhumanity and justified British imperialism. But by the 19th century, the story had a new meaning—it illustrated the perils of overcrowded and unventilated rooms.

New York City physician John Griscom retold the story of the Black Hole of Calcutta in 1848 in order to explain new discoveries about respiration and ventilation. Griscom and other ventilation experts explained that the unfortunate men had not died from the heat, but because they ran out of oxygen.

Ventilation experts agreed that a single person required 300 cubic feet of air in order to breathe safely, but Griscom calculated that the dungeon held less than 5,000 cubic feet of air. According to these calculations, the dying men had filled the dungeon with their own exhalations, which Griscom called “carbonic acid gas” but we know today as carbon dioxide.

When the captives inhaled, they filled their lungs not with lifegiving oxygen, but with deadly carbon dioxide. Those who survived also suffered; Griscom explained that survivors had a typhus-like fever that resulted from inhaling foul air laden with both carbonic acid gas and the exhalations of putrefying bodies.

For Griscom, the Black Hole of Calcutta was a cautionary tale about urban life. As New York City grew around him in the 1840s, its buildings became overcrowded and some people moved into windowless cellars. Griscom feared that every crowded tenement and every basement apartment was becoming a black hole.

New Yorkers had built a city of closely packed, poorly ventilated dwellings that sickened them—but Griscom had hope. Since they had built the problem, they could also build the solution. Griscom advocated spending on public parks, which he called “urban lungs” and “breathing spaces” because city residents would go to the parks to breathe. These reservoirs of fresh air would make cities livable and improve the health of urban residents. ■

Melanie Kiechle, an associate professor in the Department of History, is the author of Smell Detectives: An Olfactory History of Nineteenth-Century Urban America.

THE CASE OF THE VANISHED COMMANDANT

by Trudy Harrington Becker



DURING A CLASS PROJECT, my first-year history students uncovered a mystery. They had been tasked with transcribing, digitizing, and analyzing a body of letters written by a World War I veteran. Joseph F. Ware Sr., commandant of the Virginia Tech Corps of Cadets from 1911 to 1914, had handwritten more than a hundred letters, mostly to his wife, Susie, during the war.

My students worked with the original letters, which needed to remain in the university’s Special Collections. Transcribing proved not to be simple. Ware’s penmanship was lovely, but his handwriting was faint and often cramped. Sometimes sentences continued onto back or facing pages. He used hotel letterhead or notebook paper; he wrote in ink or pencil; he often scratched out phrases or even sentences. He referenced people, places, and events that were unfamiliar to the students.

Despite their struggles, something remarkable happened to my students. They felt awe holding history in their hands. They became attached to the letters they were assigned to transcribe, and they became invested in helping their classmates decode tricky passages. It was a puzzle to be solved—what did each letter say, and, even more important, what did each letter *mean*?

Once they finished transcribing, the students began constructing a timeline of events in Ware’s life. But suddenly the trail went cold. The students had

plotted his location from Panama to Plattsburgh, New York, and from France to Koblenz, Germany, but the letters stopped.

I had witnessed the students’ attachment to Ware’s story, and now I saw their frustration. When I reluctantly showed them Joseph and Susie’s divorce certificate, they groaned and held their heads. Without more letters, how could they know how his story ended?

One enterprising student tracked down the widow of Ware’s son, Joseph Jr., and the information she shared was tantalizing. She believed Joseph Sr. had remained in Germany after his time in Koblenz, acted as a spy during World War II, and been captured and interned in a camp. He later escaped and married a German woman.

Unfortunately, Joseph Jr.’s widow had never known her father-in-law, who died long before her marriage to his son. Students were unsettled that the only nugget they knew for certain was that Ware had been buried in Arlington National Cemetery after his death in 1969.

But then I found what appeared to be the obituary of Joseph Sr.’s second wife, published in an Asbury Park, New Jersey, newspaper in 1993. Students latched onto it in the hopes of learning more about the missing commandant. Indeed, this Mary Ware had been married to Lt. Col. Joseph F. Ware, who died in 1969. She had been born in Germany and had moved to the United States around 1945.

That telling puzzle piece in place, my students took comfort in the further likelihood of truth to Ware’s intriguing captured-spy story. There are still more pieces to the puzzle, of course, and like all good historian detectives, we will keep searching. ■

Trudy Harrington Becker, a senior instructor in the Department of History, wrote a pedagogical account of her students’ experiences tracking Joseph F. Ware Sr. in Perspectives on History, the American Historical Association’s newsmagazine. This essay is adapted from that article.

MAGNIFYING GLASS? CHECK.
Fingerprint powder? Check.
Notebook and pen? Check.
Superior deductive reasoning
and a dry wit? Check.

Sherlock Holmes may have had a toolbox stocked with such essential items, but if he were a real inspector working today, he might be expanding his repertoire to include the tools of detection that Virginia Tech faculty use for gathering, visualizing, future-forecasting, and fact sharing. Faculty members in the far-reaching College of Liberal Arts and Human Sciences use particularly diverse investigative concepts to illuminate a range of mysteries.

Take the case of a suspicious excess of illnesses in the small French seaside town of Fos-sur-Mer, an area home to dozens of heavy petrochemical industries. As Barbara Allen presented her grand research reveal, suspense mounted. How would the mayor react to her findings? He had not supported her investigation, and as he stood to speak, Allen held her breath.

"This is the research study we have been waiting for," he said.

INSPECTOR GADGETS

Tools of detection come in all shapes and sizes.

by Leslie King

The town had endured more than a dozen state-sponsored health studies, all of which had concluded that no negative environmental factors surrounded the town’s 18,000 residents. The mayor had no patience for another survey of the same. And the citizens believed it was the industrial environment that was causing health issues to populations near Marseille, one of France’s largest cities.

Allen, a professor in Virginia Tech’s Department of Science, Technology, and Society, had used a different approach to collect and analyze the clues that formed her research. The French Agency for Food, Environmental and Occupational Health and Safety funded her community-based participatory research in two polluted towns, Fos-sur-Mer and Port-Saint-Louis-du-Rhône.

To start, Allen and her team of doctoral students held focus groups that enabled community members to voice what details they wanted to know about the environment and their own well-being.

The team then traveled door to door to interview more than 800 people in the communities. The survey comprised questions based on the public meeting results.

Once the team members had compiled the information, they held more than 30 focus groups to analyze the data.

“What happens,” Allen says, “is that people, in the context of their lives, can look at data and make links we as scientists would miss because we’re not living it.”

The focus groups asked, for example, whether the data showed coexisting illnesses. The researchers determined that, indeed, many people had clusters of illnesses, such as throat cancer, skin conditions, and adult-onset asthma. They turned this information into a new diagnostic tool for local health care providers, who are in turn now applying for funding to study relationships among the conditions.

In response to the results, the French health care system has asked Allen’s team to train others in community-based participatory research.

“This work,” Allen says, “has the potential to change France’s national approach to measuring health in regions in which citizens had previously raised concerns about health, to no avail.”

Tools for Visioneering

Another mystery has been unraveling in France, near the small northeastern city of Verdun, where a multidisciplinary team of Virginia Tech investigators is using immersive technologies to walk in history’s footsteps.

While working on a project with the American Battle Monuments Commission’s mandate to remember the sacrifice of U.S. soldiers, David Hicks, a professor in the School of Education, became interested in the remains of Vauquois, a World War I-era village.

“The village went from fighting in the street to below ground in the cellars,” Hicks says. “The cellars then became trenches, which in turn became tunnels.”

With a grant from Virginia Tech’s Institute for Creativity, Arts, and Technology, Hicks and the other investigators on his team have turned Vauquois into a collaborative research project. They have combined ground-penetrating radar, photogrammetry, and laser scanning with archival work to create a digital recreation of the above- and below-ground features of the craters, trenches, tunnels, and galleries.

Their goal is to incorporate these technologies into an immersive experience that answers the question, If this place could talk, what would it say about life during the First World War?

The team has also built a virtual-reality simulation that allows participants to experience being in the tunnels. Team members have expanded that simulation to incorporate a physical structure with tactile sensations, along with point-cloud technology to reconstruct the surface and geography of the space.

Hicks believes these immersive-technology tools help bring history to life. “If you can think about people in the past and understand what life was like for them,” he says, “you can better consider others today with empathy and respect.”

Tools for Seeing Sound

The same immersive technologies that bring hidden histories into view can also render sound visible. From the files of Ivica Ico Bukvic, an associate professor in the School of Performing Arts, comes the curious investigation of seeing spatial audio.

Bukvic is part of a Virginia Tech team that studies user interactions with data in mixed-reality environments. Team members received a grant from Microsoft to explore the company’s HoloLens potential, which Bukvic is combining with another venture called the Spatial Audio Data Immersive Experience project.

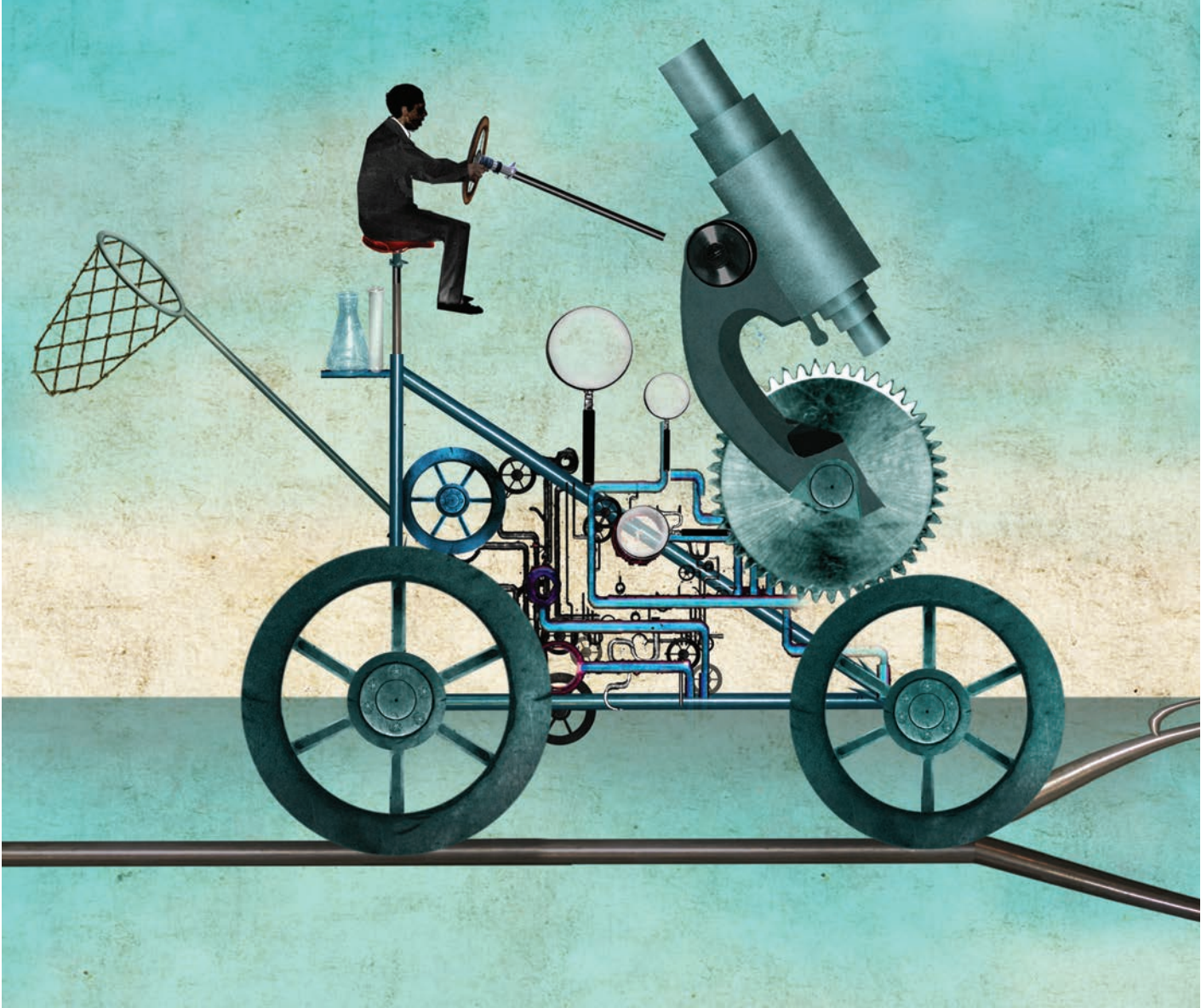
HoloLenses look like bulky, wraparound sunglasses that allow the real and virtual worlds to be viewed simultaneously.

“You still see everything around you, but when you look through the lens, you might discover something else, such as a virtual pet you can view only through those glasses,” Bukvic says. “And the system recognizes your head motions, so as you move your head, the image of the pet realigns itself to appear in the same position.”

But instead of seeing a puppy, in Bukvic’s research in the Cube at the Moss Art Center, viewers “see” the location of sound. Although this work has implications for visual entertainment, it also creates a more intuitive way of composing music for the Cube, whose sound system incorporates more than a hundred loudspeakers.

“With the HoloLens, I can just glance toward the sound and see a visual manifestation,” Bukvic says. “It may be a pulsating light or an orb. I can grab it, move it, and record it. Over time, I can have multiple people moving sound so it becomes like an orchestra of spatialized sounds.”

Bukvic describes the HoloLens-and-Cube combination in terms of decision theatre, an immersive environment that provides a space for collaboration and technologies to assist human reasoning for group decision-making. The HoloLens allows



THE SAME IMMERSIVE TECHNOLOGIES THAT BRING HIDDEN HISTORIES INTO VIEW CAN ALSO RENDER SOUND VISIBLE.

participants to see and hear data, which increases their ability to process the information.

Computer-Enabled Sleuthing

Even without the HoloLens, decision theatre enables investigators to devise strategic outcomes. Those working in a control center during a crisis, for example, must coordinate decisions with quickly evolving data.

Aaron Brantly, an assistant professor in the Department of Political Science, creates disaster simulations to help Virginia Tech students think beyond the borders of the traditional classroom.

“The idea is to break down barriers between different disciplines in each college,” he says, “so computer science, social science, and business students can interact with complex issues related to security challenges.”

To do this, Brantly creates a computerized disaster scenario with preprogrammed data, and each student takes on a mock emergency management role, ranging from a local sanitation commissioner to the U.S. Secretary of Defense.

The simulated case of Hurricane Sandy, for example, begins pre-storm, and the students must create an emergency plan. Who should they evacuate? How should they prepare resources? How will they handle electrical outages, water contamination, and data compromised by computer hackers?

Then the students deal with the storm itself and the vulnerabilities it creates within the infrastructure. National and international crises occur, including cyberattacks. The students must work through these complicated issues, which simultaneously involve businesses, government, and individuals.

“The idea is to give students a controlled yet realistic simulation that allows them to think way outside the box,” Brantly says. “This type of project leverages their

interdisciplinary studies to prepare them to succeed in the workforce in a manner beyond what a focus on a single discipline can provide.”

Decrypting the Socialsphere

While Brantly is training the next generation of cybersecurity sleuths, social media runs rampant with fearsome cries of fake news and propaganda. But never fear, Virginia Tech investigators are also on that case.

James Hawdon, a professor of sociology and director of the Center for Peace Studies and Violence Prevention, is using his detective skills to help predict crises caused through social media before they happen. He is part of a university team investigating threat-detection methods on Twitter. Through a National Science Foundation grant, the team uses computational algorithms to sort data gleaned from the social media platform to learn how polarizing tweets pose a threat to both geographic and social communities.

“Our research model will track how polarizing information flows through time and space,” Hawdon says. “We will track the origin of the information and its dissemination across geographic and social space.”

The team’s theory is that polarizing information is a barometer of social threat. The computer scientists involved are working on the algorithm to sift through the data and classify the tweets as positive, negative, or neutral.

Hawdon’s role is to analyze traditional research on the measurement of social capital through community surveys, census tracking, voter turnout, and philanthropic giving. The traditional research measures the effects of social-media polarization, and the team will use these data to align the algorithm’s results.

“What we’re hoping to find,” Hawdon says, “is a way to detect, in near real time, threats to the social fabric of communities in the larger society.”

One of Hawdon’s graduate students—Stacey Clifton, a doctoral student in criminology—has seen the benefit of using powerful technological tools in her own research. Applying urban-computing methods to her work, Clifton explores how police-training programs shape officers and their immersion in the police subculture, affecting their beliefs and attitudes.

Clifton also explores officer coping strategies. Like Hawdon, she uses social-network analysis and other tools to gain understanding into criminology theories. To predict traffic-stop searches, for example, she applies decision trees to map out the outcomes of police choices.

“Applying data science has afforded me an opportunity to use concepts I would have previously disregarded,” Clifton says. “I can now see and appreciate how multiple disciplines come together to explain complex phenomena.”

Mapping the System

The use of technology as an investigative tool goes beyond past or future visualizers. The amassing of data can help users see unexpected truths, such as the classic phenomenon of gerrymandering.

LaDale Winling, an associate professor of history, collaborates with colleagues at the University of Richmond to shed

EXPERTS IN THE LIBERAL ARTS FIELDS ARE ESSENTIAL BECAUSE “THEY’RE THE ONES WHO CAN QUESTION ASSUMPTIONS THAT ARE BUILT INTO THE TECHNOLOGY, THE DATA, AND THE DIGITIZED MEDIA.”



light on political boundary manipulations. The team has used digital data visualization to map more than a century’s worth of election returns for the U.S. House of Representatives.

“With these visualizations and resources, you can see the effects of redistricting over time in a way that has never been possible,” Winling says. “You can see where landslides happen because of redistricting and how changes can turn a blue area red and vice versa.”

The online map, “Electing the House of Representatives,” shows a timeline and a graph of how districts across the United States voted throughout history. The website uses a geographic information system and a shapefiles format to display the information in a dynamic, intuitive way.

“This website,” Winling says, “makes years of redistricting—and the manipulation of boundary lines based on a location’s political leanings—more transparent to the public.”

Digital Humanities Tools

Whereas detectives of yesteryear met in clandestine places to exchange information, the web has become a gathering place of information and investigators. E. Thomas Ewing is an advocate for digital humanities tools to help sleuth out nuances in history. In addition to using computational tools for analyzing large-scale interactions between people, organizations, and ideas, Ewing, a history professor, uses online resources for digital publishing.

In a workshop called “Viral Networks,” supported by a National Endowment for the Humanities grant, Ewing convened a group of medical historians to create an open-source scholarly publication at the National Library of Medicine.

“This workshop addressed many of the university’s priorities,” Ewing says. “Virginia Tech is placing emphasis on transdisciplinary research, new approaches to digital publishing, innovative applications of data analysis, and scholarship on the human dimensions of disease, medicine, and health.”

During the workshop, participants used virtual-editing activities to increase the community of scholars who are using current digital technologies and resources to expand historical medical research.

The Mysteries Never End

The college’s faculty investigators solve a variety of puzzles with tools that even Sherlock Holmes would envy. Whether they use innovative data-gathering techniques or present research in inventive ways, their information sheds light on issues and complexities the modern world faces.

“It’s essential to have experts in the liberal arts fields involved in collaborative research because they’re the ones who can question assumptions that are built into the technology, the data, and the digitized media,” Ewing says. “They’re the ones who can put all the pieces together and say what it all means.”

Case closed. ■

STRENGTH IN NUMBERS

College of Liberal Arts and Human Sciences faculty dig deep into datasets large and small to enhance research in a range of fields. Just a few examples follow.



Identifying vulnerabilities. To understand what drives health-care outcomes in older adults, Laura P. Sands, a professor in the Department of Human Development and Family Science, uses anonymous data from national surveys, electronic health records, and Medicare and Medicaid claims to identify the characteristics of vulnerable older adults that increase their risk for poor health outcomes.



Tracking outcomes. Caitlin Jewitt, an assistant professor in the Department of Political Science, focuses her research on campaigns and elections, public opinion, political parties, and presidential primaries and caucuses. Her interest is in the consequences of each political party’s electoral rules on the competitiveness of nominees, voter turnout, and nomination outcomes. Her expansive dataset, which details the nomination rules each party used in each state from 1976 to 2016, reveals how parties exert influence over their members and limit voter impact.



Understanding connections. David Radcliffe, a professor in the Department of English, takes a big-data approach to tracing social networks in Romantic-Era Britain. If writing was a vital component of romanticism, he notes, so too were face-to-face relationships. As a particularly well-placed poet, society figure, and political revolutionary, Lord Byron participated in friend-of-a-friend networks that extended across the world. Taking Byron as a starting point and using database technology in connection with contemporary letters and diaries, Radcliffe explores connections made through marriage, education, and membership in professions, clubs, and political institutions.



Monitoring trends. Katherine Haenschen, an assistant professor in the Department of Communication, uses data to investigate the impact of social media on politics. She conducted a field experiment in Dallas, for example, to examine the effect of micro-targeted internet advertising upon millennial voter participation. Using that dataset, she was able to publish the first study to show that Facebook advertising indeed increased voter turnout.

PORTRAITS OF THE PAST

Civil War Soldiers

OLIVER CROXTON looks pensive. His light, deep-set eyes gaze to the left of the camera; his cheekbones show prominently above his dark, bushy beard. The two chevrons on his uniform sleeve reveal his corporal status.

More than 150 years after Croxton sat for his portrait, his great-great-nephew came across it, and for Kurt Luther, the moment was electrifying.

"It was serendipity at play," Luther says. "I happened upon a photo album of Oliver's Union regiment in a museum exhibit. There he was in his Civil War uniform; no one in my family had ever laid eyes on him before."

Luther, an assistant professor of both computer science and history at Virginia Tech, had long been interested in the Civil War. But now he became obsessed with offering that same thrill of discovery to others.

"It's so powerful to look into the faces of these soldiers," Luther says. "And yet, at most, only 30 percent of the photos of Civil War soldiers are identified. I realized we could use new technologies to help put names to faces."

So, in 2017, Luther joined with Paul Quigley, director of the Virginia Center for Civil War Studies, and Ronald Coddington, editor of *Military Images Magazine*, to launch Civil War Photo Sleuth. The website uses two principal tools—facial-recognition software and crowdsourcing—to allow academics

and members of the public alike to do the historical detective work.

The site can scan the facial features of soldiers and compare that facial "map" with those of thousands of other images in the database. Contributors can upload photos found in attics or scattered among the online databases of historical societies, museums, and collections. The photos can then be tagged with such details as the number of chevrons on uniforms and the style of hat insignia.

"Users often search the database for photos of their ancestors or for soldiers who served in local regiments," says Luther. "That discovery process is one of the great joys of photo sleuthing. And the site allows us to restore meaning to images and personal histories that would otherwise remain forgotten."

Civil War Photo Sleuth now includes the photos of more than 20,000 identified soldiers, along with 5,000 others waiting to be recognized, including some civilians. More intriguing prospects are uploaded every day.

"One of the things that makes history so exciting is getting to know people from the past as people," says Quigley, who also serves as the James I. Robertson Jr. Associate Professor of Civil War Studies in the Virginia Tech Department of History. "A photo makes a connection so much more direct. You can really imagine these people as complex human beings rather than just names in documents." ■



MISSING PERSONS

Some disappearances are more subtle than others. Faculty detectives seek—through images, language, and stories—evidence of vanished people. **by Paula Byron**



LINGUISTIC LOSSES

New Orleanians in the Aftermath of Hurricane Katrina

WITH ITS BUOYANT JAZZ BEATS, flamboyant Carnival floats, and piquant Creole dishes, the Big Easy has long been celebrated for its sensory exuberance. Yet some of the distinctive sounds of New Orleans—the linguistic cadences that reflect the city’s multicultural heritage—are slowly softening and even falling into silence. And at the epicenter of that loss is Hurricane Katrina.

“You can’t talk about life in New Orleans without talking about Katrina,” says linguist Katie Carmichael, an assistant professor of English at Virginia Tech. “It changed the trajectory of the city forever. People were forced to evacuate, and different ethnicities and groups dispersed. As the city embarked on its long road to recovery, it was forced to redefine itself.”

Carmichael focuses her research on linguistic changes that have occurred in the aftermath of the storm. And now, with a National Science Foundation grant she shares with Tulane University collaborator Nathalie Dajko, she is defining the effects that displacement and migration have had on language spoken in the city.

“The storm stirred up issues of gentrification, displacement, globalization, racial tension, social class, and politics,” Carmichael says. “It’s as if Katrina shook the city up and then set it back down, forcing people to confront these issues quickly. We’re now working against the clock to capture the corresponding linguistic changes.”

Carmichael and Dajko are interviewing 200 lifelong residents of different ethnic backgrounds and neighborhood origins to collect the largest and most

diverse data sample ever assembled in the city. They’re also working with a team of undergraduate researchers from both Virginia Tech and Tulane to analyze those data.

“Social pressures affect languages everywhere,” Carmichael says, “but the hurricane accelerated those social pressures in New Orleans, so we can detect linguistic changes in real time.”

As part of their work, research team members are asking New Orleanians to characterize their language in their own words and to describe how different phrases and ways of speaking relate to their personal identities. Their narratives will be featured on a website.

Carmichael adds that everyone they interview shares a Katrina story.

“We hear the most heart-wrenching stories of people wading through floodwaters and losing family members,” Carmichael says. “Everyone down there has experienced deep, deep loss. It’s part of who they are now.” ■

STOLEN IDENTITIES

Women and Men with Appropriated Images

MAGINE BEING LED TO A WINDOWLESS ROOM, told to strip, and instructed to turn left, right, and center as you were photographed in the nude. And now imagine, after you’d gathered your clothes again, being handed a grade.

A range of famous people—from Hillary Clinton and George H.W. Bush to Meryl Streep, Nora Ephron, and Bob Woodward—were subjected to such photo sessions during their college orientations. In fact, the practice of taking “posture portraits” was common at many Ivy League and Seven Sisters colleges between the late 1920s and mid-1960s.

“The program was run by physical education departments under the guise of promoting good health,” says Andrea Baldwin, an assistant professor in the Virginia Tech Department of Sociology. “If your posture received a failing grade, you’d have to take a class to ‘correct’ the deficiencies of your spine. Some schools wouldn’t allow you to graduate until you passed.”

Perhaps even worse than the humiliation, Baldwin says, was the possible impetus behind the posture portraits. Driving the practice was a psychologist, William Sheldon, who believed that physique determined a person’s destiny. He used the photographs to classify people by body type.

“At best, Sheldon’s work was based on faux science,” Baldwin says. “At worst, it was motivated by eugenics. Regardless of his real intentions, underlying the practice were assumptions of what it meant to be normal.”

Baldwin learned of the diagnostic practice while a visiting assistant professor at Connecticut College, which had followed the practice earlier in its history, when it was an all-women’s institution. She teamed up with a choreographer, a computer scientist, and students to delve further into the history.

“During our research into the archives of various schools and the Smithsonian Institution, where a number of the files ended up,” says Baldwin, “we were assured the photos had all been destroyed. Yet we came across hundreds of them. We were seeing women and men in the nude without their consent; we felt complicit.”

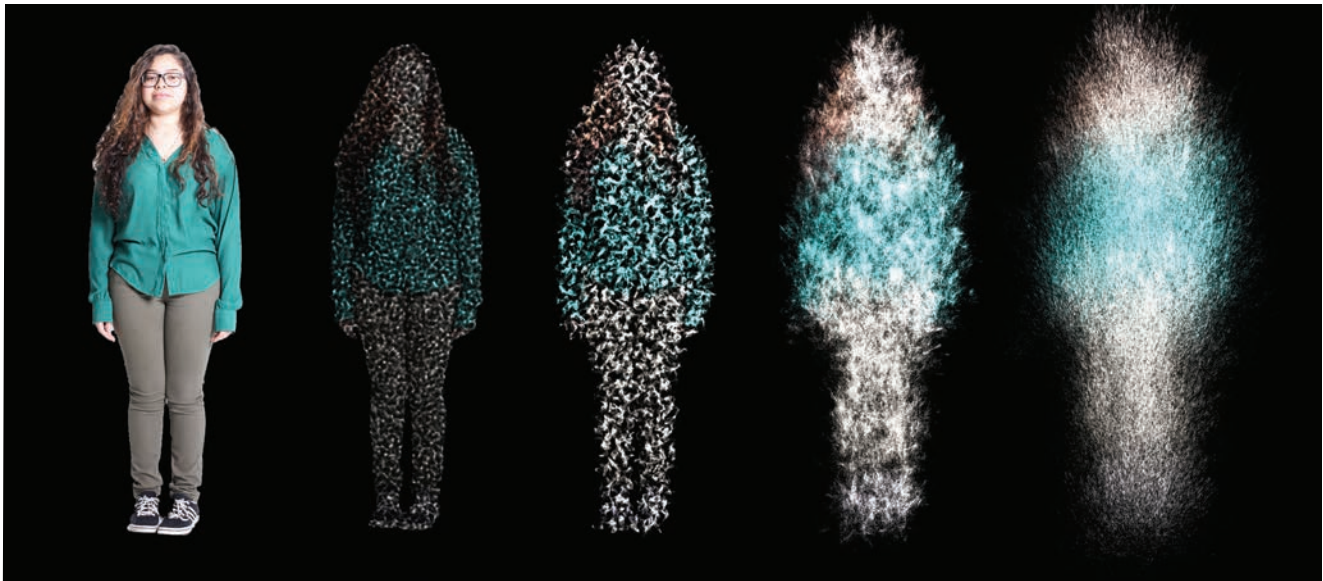
The researchers also interviewed Connecticut College alumnae who had undergone the practice. The women, whose ages ranged from 78 to 92, all regretted their compliance, even as they were given no choice. One participant characterized the experience as “dehumanizing”; another likened it to being arrested.

Baldwin points out that the dubious practice happened to mostly privileged college students. “Imagine,” she says, “what their vulnerability suggests for those not as protected by socioeconomic class or opportunity.”

So Baldwin and her colleagues decided to stage a photo session that allowed Connecticut College students to claim their own images as a kind of therapeutic reconciliation with the past.

“We wanted to heal this narrative of shame by using photography, dance, and technology to re-focus the gaze,” Baldwin says. “In ‘The Reminiscence’ we chose to do the opposite of everything those early photo sessions represented. Our participants wore whatever they liked and stood however they felt comfortable. The students of the past were silent; our students recorded their thoughts in their own voices.

“The past sessions sought conformity and compliance; we opted for individuality, freedom of choice, and—most significantly—consent.” ■



TAKING CONTROL: In “The Reminiscence,” a digital reboot of the posture-portrait-taking practice of the past, a new generation of students dissolved their photos into scattered pixels to represent the destruction of appropriated images.



LEADERS IN LEARNING: Principals Charles L. Marshall (front row on the left) and Edgar A. Long (front row, second from right) gather with teachers in front of a Christiansburg Institute classroom building.

SEPARATE HISTORIES

African Americans with Unchronicled Achievements

THE FIFTH GRADERS WERE ASSIGNED a case with few clues. If this place could talk, they were asked, what would it tell you about the people who were here a century ago?

The students stood in a field with long, matted grass. A thicket of trees encircled much of the site. To the north, they could see scattered industrial projects and commercial buildings; from the south, they could hear trains lumbering past. On the far end of the property, a large bell was visible near a reconstructed smokehouse. Near the center of the field sat a two-story brick building with boarded-up windows.

And then, slowly, other clues accrued—and history came to life.

The landscape changed for the students. Through the use of mobile devices and an augmented-reality app, they could see the desolate field in front of them layered with computer-generated images of structures that had once stood there. The fifth graders soon realized they were on a former school campus. Yet that was just the beginning of their understanding.

“The campus was mostly missing,” says David Hicks, a professor in the Virginia Tech School of Education, “so we decided to present the what and the who as historical mysteries, with the students acting as junior detectives. We wanted to use new technologies to make the invisible past visible again. That’s how CI-Spy was born.”

Hicks was part of a team of historians, computer scientists, and fifth-grade teachers who, with National Science Foundation funding, designed and developed the app, which also provided historical documents, photographs, and oral-history interviews. Students then used a set of guiding questions to analyze the material.

The CI-Spy app was named for the former school—the Christiansburg Institute. Founded in 1866 with the mission of educating the children of former slaves in the Appalachian region of Virginia, the school began as a one-room rented log cabin. By the turn of the century, it had expanded into a sprawling, 185-acre campus with more than a dozen structures, including classroom buildings, a dormitory, a woodshop, and a gymnasium. Generations of African Americans studied there under the leadership of such noted educators as Booker T. Washington. Then, after a century of serving as the principal segregated school for African-American students across southwestern Virginia, the Christiansburg Institute closed its doors in 1966, following desegregation of the area’s schools.

“We didn’t tell the students that the Christiansburg Institute was a segregated school, because we thought it would be more powerful for them to discover that for themselves,” Hicks says. “CI-Spy helped the students understand how the separate-but-equal doctrine—particularly segregated schooling—affected their own community.”

Over time, most of the school’s buildings were sold or torn down. Today, the Edgar A. Long Building is the lone classroom facility still standing, and the smokehouse has been converted into a small museum. Christiansburg Institute, Inc. and the Christiansburg Institute Alumni Association—both of which partnered with the development team in creating CI-Spy—are working to raise funds for renovations and, eventually, educational programming.

“The mixed-reality technologies allowed us to layer in information to help the fifth graders hone their detective skills,” Hicks says. “And, we hope, the hidden histories that revealed themselves gave the students an appreciation for the lives of African Americans during those years of segregation.” ■

FORGOTTEN PLIGHTS

Refugees with Uncaptured Stories

PEOPLE SEE WAR ON TELEVISION, but they don’t smell it, they don’t hear it, they don’t feel the impact of a bomb,” Elvir Berbic says. “It’s so different when you are there, and you constantly have this fear. Thankfully, we were able to get out in time. Many people did not, of course.”

In 1992, when he was ten years old, Berbic and his family fled Bosnia in a small convoy of cars. He watched through the windows as they passed shot-up villages, charred houses, and the rotting carcasses of livestock. A mortar aimed at them hit just short of their vehicle as they raced across the border.

Berbic’s family lived in a refugee camp in Croatia for three years, before making their way to Roanoke, Virginia. It was there he recently recounted his history to Katrina Powell, an English professor at Virginia Tech.

His story is now one of many that Powell and a team of Virginia Tech students are compiling in a book, *Resettled: Beginning (Again) in Appalachia*. Voice of Witness, a nonprofit that advances human rights through oral-history projects, is underwriting the project.

“Our book focuses on interviewing people resettled in Appalachia, whether a month ago or generations ago,” says Powell. “These stories carry importance beyond their intrinsic value. Both refugees and Appalachians get misrepresented in the news media all the time, for example.

“We want to amplify the voices of the unheard. Stories of immigrants, refugees, and asylum seekers are multifaceted, and it’s critical to learn that complexity to ensure we have the most humane policies and laws possible.”

As part of the Voice of Witness grant, the Virginia Tech Center for Rhetoric in Society, which Powell directs, holds training workshops in oral-history methodology for both undergraduate and graduate students.

“Oral history is meant to document an individual’s story from birth to the present,” Powell says. “When you know the entirety of someone’s life, you understand better the impact of displacement and resettlement. When we grasp that impact, we’re more likely to treat people humanely and to gather as communities to welcome them.”

Berbic now enjoys welcoming others, particularly in his role as a volunteer soccer coach for teen refugees.

“I work with these young men because I was that person,” says Berbic, who has since earned a master’s degree and now works at the Virginia Tech Carilion School of Medicine. “I want to help them focus on getting educated and assisting their families and communities. I give back this way because I remember those years when I had nobody to guide me.” ■





CYBER SLEUTHING

How do you uncover clues about online operations veiled under a cloak of darkness?

by Richard Lovegrove

HOW DO YOU INVESTIGATE a network that emphasizes anonymity and is designed to foil not only casual users but detectives as well?

“Sometimes you have to get creative,” says Eric Jardine, an assistant professor of political science at Virginia Tech who investigates the uses and consequences of the dark web.

A subset of the deep web, which can be neither found by traditional search engines nor visited with standard browsers, the dark web is a collection of websites that use encryption tools to hide their identity.

“We’ve long known—really, ever since Plato wrote about the myth of the Ring of Gyges, which enabled its owner to become invisible at will—that when people are

rendered anonymous and their actions are untethered from their identity, their moral compass can break,” Jardine says. “And that’s certainly what we see with the dark web.”

Jardine notes that, when conducting research on the dark web, you need to find innovative ways to expand your investigations wherever possible. You should also partner with those who have complementary skills to try to investigate issues that cross disciplines.

For instance, Jardine looked at whether the availability of illegal drugs on the dark web had spilled into narcotic usage and arrests on a state level in the United States. To accomplish that, he and fellow researchers used a big-data approach to gather information about people’s interest in the dark web and then correlated those data with state drug use and arrest statistics.

“We found that the dark web drives up drug-usage rates and drives down drug-arrest rates,” Jardine says. “And that suggests a more fundamental problem, which is that policing isn’t really keeping up with the shifts in how users obtain drugs. But investigators are still doing an amazing job under challenging circumstances,” including a lack of resources, difficulty retaining people with the detective’s intuition and

necessary cyber skills, as well as murky jurisdictional laws.

Jardine’s research focuses on the uses and abuses of anonymity-granting technologies and encryption, as well as the inherent politics of the public-policy dilemmas surrounding both. He also looks at trends in cyber-crime and how people’s use of email and other digital technologies affects cybersecurity.

“Because of the technologies involved,” Jardine says, “it’s not easy to find out in a systematic way what’s happening and where the legal lines are drawn.”

According to Jardine, research has found that about half of dark-web content is legal under U.S. laws. His own research shows that what he considers to be the best need for the dark web—anonymity to express oneself safely—increases under repressive regimes.

“There’s a case to be made for these technologies,” he says, “as being fundamental to privacy and free expression.”

The other half of dark-web content consists of sites that sell malware, drugs, guns, or worse. One landmark study found that 2 percent of dark-web sites involve child-abuse images, and those sites draw some 80 percent of dark-web traffic.

“How do you manage all this complexity in a way that’s feasible, doesn’t break the system for people in repressive regimes who need anonymity, and yet doesn’t let the harms run rampant and unchecked,” asks Jardine, who notes that shutting down the dark web would be difficult, if not impossible.

Jardine’s quest to manage that complexity has led to collaborations around the world. For example, he is working with British computer scientist Gareth Owenson on such policy questions as whether the distribution of harms and benefits from the dark web vary in any systematic way. He is also authoring a paper with former Homeland Security Secretary Michael Chertoff on thorny national and international jurisdictional issues.

In addition, Jardine has developed a course that introduces Virginia Tech students to navigating and measuring content in a largely unmonitored corner of the internet. The course also explores the policy implications of the dark web, examining how threats emerge and how law enforcement attempts to police this murky domain.

The field interests Jardine in part because it can be investigated through so many lenses, including political, economic, criminological, international relations, public health, and social frames.

“There’s something fascinating about the whole mix,” he says. “You have your positive uses, your negative abuses. Technology is involved, as are fundamental and time-immemorial questions about anonymity and identity. The tendrils that come off dark web research touch so many different areas.

“It’s yet to be boring.” ■



BEHIND THE CAMERA

Alumni bring stories to life on screens large and small.
by Leslie King

Marco Shepherd Working with the big picture

AS MARCO SHEPHERD SAT IN THE DARKENED movie theatre and watched the premiere of *Independence Day: Resurgence*, he waited for the credits to roll. Then he felt his heart race. There on the black screen in white capital letters, under the word *co-producer*, was his name. Seeing his moniker attached to a big blockbuster film was a proud moment.

Shepherd, who graduated from Virginia Tech with degrees in communication and graphic design in 2005, had always dreamed about going into the film industry. Yet his aspirations were not without obstacles. His math scores were high, and he felt family pressure to go into engineering. And, although he was a U.S. citizen, he was originally from Puerto Vallarta, Mexico. English was not his first language, and he found writing in it to be particularly challenging.

"My adviser, Marlene Preston, taught writing, and she was the first to give me a D or an F on a paper," Shepherd says.

He explained to her why his writing skills were lacking. Rather than lowering her requirements, she gave him advice that still resonates.

"No one will care about your excuses in the workplace," she told him. "Step up to the plate. You'll have to work twice as hard as most of the Americans born in this country. People will judge you on what you produce."

To improve his written communication, he spent time at the Virginia Tech Writing Center. It was lessons like these that helped him refine his skills and made for lifelong mentorships, such as one with Stephen Prince, a professor of cinema studies.

"His classes gave me a deep understanding of film," Shepherd says. "So when I came to Hollywood, I knew there was more than the production and business sides of the film industry. I needed to understand the history and the story of how filmmakers were able to achieve what they achieved. Ultimately, it would be the difference between being a filmmaker and a master."

He began his career editing commercials for a marketing firm and working as an assistant to various filmmakers in the entertainment industry. Then in 2009, Centropolis Entertainment, the production company of blockbuster director Roland Emmerich, hired him as a second assistant. Shepherd rapidly ascended into his current role as head of production and development of Centropolis in 2015.

He is now responsible for overseeing physical production of the company's films and television shows, hiring actors and screenwriters, raising financing, packaging distribution deals, and seeking out new talent and scripts to develop and produce.

Shepherd believes it's a great time to be in Hollywood. With the #MeToo movement training the klieg lights on Hollywood's role in sexual harassment and sexual assault, he's drawing on his Virginia Tech experiences and the university's motto of *Ut Prosim* (That I May Serve) to move forward.

"With Hollywood in the spotlight, we have the power to influence not just our industry but others," he says. "In the eyes of the world, we can help change things. We can create safe and healthy workplaces. People will be happier and work harder. And they'll be more productive and creative."

Ensuring a peaceful environment is crucial, Shepherd adds, as it allows him to bring all the dynamic people involved in movie-making together and helps them thrive.

"Film is about teamwork," he says. "I depend on a team of strong people who dedicate themselves to specific areas. Each person—whether it's a production assistant or the head of a department in production design, cinematography, or lighting—brings an expertise to complete the big picture." ■

"Film is about teamwork. Each person brings an expertise to complete the big picture."

STUDIO SYNERGY: Marco Shepherd makes sure all the elements of moviemaking come together for such big-screen offerings as *Independence Day: Resurgence*.



HOMEcoming: Matt Arden, sporting his Rolleiflex camera T-shirt, pays homage to behind-the-lens creativity during his frequent trips back to Blacksburg.

Matt Arden

Creative learning that never ends

MATT ARDEN HAS NEVER STRAYED FAR from sports stories. From his start as an intern at WRC-TV Sports and “The George Michael Sports Machine” in Washington, DC, to his current position with the NBA 2K League, his career in creative media has thrived.

Arden, who graduated from Virginia Tech in 1999 with an interdisciplinary studies degree, merged his passion for history’s stories with professional writing.

“The liberal arts allow you to chase your passions,” he said. “I love history and all these wonderful nuggets of truth, which helped me to think about the way I write about and view the world.”

Arden also used his college years to get on-the-job training working with the university’s student media organizations. This led to his Washington, DC, experience in sports media.

“I wrangled internships by being a pest,” Arden says. “I got jobs because I asked for opportunities rather than waiting for them to come my way.”

After graduation, he worked for Virginia Tech Athletics, providing stories for HokieSports.com. Then he moved to Atlanta to work with CNN’s Sports Illustrated website. Several months later, Turner Sports recruited him as a production assistant and a late-night television personality. There he became a founding member of its Creative Services Sports Unit, where he spent five years refining his writing, producing, and directing skills, along with working with branded content. During that time, he won three Sports Emmy Awards.

“I love history and all these wonderful nuggets of truth.”

In 2011, Arden moved to New York City, where he created and launched Screenvision Media’s creative studio, 40 Foot Solutions, which produces pre-show videos in movie theatres across the country. There he oversaw a roster of more than 150 national advertising clients, including Citizen’s Watch, for which he produced two mini-documentaries starring Virginia Tech students.

Arden’s newest position takes him back to his roots in athletics media. He is now the head of content and media for the newly launched NBA 2K League, the National Basketball Association’s professional competitive gaming platform.

And he continues to learn and thrive. “I’m a firm believer that, with every job you take, you never really leave college,” he says. “You just stop paying a university to teach you stuff. Each job has been an incredible and creative learning opportunity.” ■

PHOTO: LESLIE KING

Tony Hardmon

Finding the beauty within humanity

DURING HIS FIRST YEAR AT VIRGINIA TECH, Tony Hardmon faced a problem. As he looked at his film footage, the now Academy Award–winning cinematographer was unhappy with the quality of his photography.

In quiet confidence he expressed his discontent to Edward Sewell, at the time an associate professor of communication. It was then Hardmon learned his most meaningful lesson as an undergraduate.

“Ed encouraged me to be patient and to just continue refining my skills,” says Hardmon, who earned his communication degree in 1986. “He assured me that the aggregated experiences of living life would reflect in my work, and that my work would develop as I matured. The phrase I always recall him saying is, ‘You’ll look back on all those wonderful, accumulated moments, and you’ll find they ripen as you get older.’”

As Hardmon dedicated himself to a career in cinematography, he amassed a wealth of experience and grew as an artist. He worked on films such as Barbara Kopple’s *Miss Sharon Jones!*; Heidi Ewing and Rachel Grady’s *The Boys of Baraka*, *Detropia*, and *Freakonomics*; Liz Garbus’s *The Execution of Wanda Jean* and *Girlhood*; Stacy Peralta’s *Crips and Bloods: Made in America*; and Michael Moore’s *Sicko*.

Hardmon says he discovered a passion for documentaries because they not only inform audience members, but can also move and motivate them.

“I want to collaborate on projects that inspire viewers,” he says. “And I’m curious about people’s unique stories and how they overcome their adversities. I’m interested

in discovering how particular situations happen as well as how they get resolved.”

Semper Fi: Always Faithful, a film he made in 2011, is a prime example of a documentary that fulfilled his cinematographic ideals. It features a career Marine who uncovered one of the largest water contaminations in U.S. history.

Activists and legislators used the film to raise awareness about the water crisis, which led to the passage of legislation that provides health care for the Marines affected by the contamination and their families. Attending the bill-signing ceremony at the Oval Office with

President Barack Obama was the proudest moment of his career, Hardmon says.

Service to others is always a theme running through his film projects. He prefers to work on documentaries that address a social issue, whether economic inequality, underrepresented groups, an environmental story, travesties in the criminal justice system, or a little-known subculture. And he gravitates toward those he believes will have a positive impact on society. By offering a window onto the lives of others, he aims to cultivate empathy and compassion within viewers.

Hardmon’s many other credits include the Academy Award–winning short film *Crisis Hotline: Veterans Press 1*; the documentary series *Boomtown*, which won the International Documentary Association Award; and *I Am Evidence*, which was honored with a 2019 Alfred I. duPont–Columbia University Award.

“I like the challenge of telling these stories in a compelling way,” he says. “I try to prioritize my choices based on several factors: Does the project have the potential to educate or inspire an audience? Will it draw awareness or bring clarity to a troubling situation? And will it be something I’ll be proud to present to my daughter one day?” ■

“I’m curious about people’s unique stories and how they overcome their adversities.”



MOVING MOTIVATION: Through cinematography, Tony Hardmon seeks to tell stories that bring more empathy into the world and that shine a spotlight on social issues. Once these issues are exposed, he hopes society will work toward positive change.

PHOTO: RACHEL LIBERT



"I discovered I wanted to create stories instead of building bridges."

And although he works in different film genres, each resonates with Consiglio, the owner of a Los Angeles-based production and postproduction company, VFRFilms.

"You want to create the best product," he says. "You want it to have impact; you want people to be changed by it."

Consiglio knows firsthand the transformative power of his medium, as it changed his life while he was a mechanical engineering student at Virginia Tech. After playing a small role in a student film, he attended the movie screening and instantly fell in love with the storytelling potential of film. He likens the experience to the moment in *The Wizard of Oz* when Dorothy leaves the black-and-white world of Kansas for the color-saturated Oz.

"It was editing that resonated with me because it's like engineering," he says. "It's construction. You build a film shot by shot, like assembly, and I discovered I wanted to create stories instead of building bridges."

After changing his major and graduating with a communication degree, he worked in the Washington, DC, video industry, where he landed his first full-time job as a film editor on projects for National Geographic and the Discovery Channel.

He moved to Los Angeles and launched VFRFilms, but returned to the nation's capital when documentarian Nina Seavey hired him to edit her film, *The Ballad of Bering Strait*. He then split his time between both cities, teaming up with filmmakers Sean Fine and Andrea Nix Fine to edit three documentaries that earned an Emmy, a Peabody Award, two Academy Award nominations, and the Oscar win.

Consiglio says he enjoys projects that help others.

"I live for the moment when someone who sees my films tells me they forgot they were watching a documentary," he says. "I'm most proud when people walk away transformed." ■

WHEN YOUTUBE VIEWS TOPPED the 100 million mark for Katy Perry's *Chained to the Rhythm* music video, Jeff Consiglio smiled. In 2015, when the documentary *Twinsters* received a greater than 90-percent-positive rating on Rotten Tomato's movie ranking website, he grinned. When the film *Inocente* won an Academy

Award for Best Documentary Short Subject in 2013, he celebrated at the Oscars.

This list of accolades for Consiglio, a 1983 Virginia Tech graduate and an acclaimed film editor and producer, does not even cover his work for commercial clients such as Gatorade and Apple.

A

CTOR AND DIRECTOR BEN STILLER handed Tim Leaton a bowl of M&Ms and told him to pick out the green ones. Leaton, who was Stiller's assistant on the movie *Tropic Thunder*, at once began the sweet task.

But Stiller was only joking. And instead of quashing Leaton's desire to be in the movie industry, the director wrote him a recommendation letter that helped the budding film editor find success in Hollywood.

But how did Leaton get to sort candy for Stiller?

A year before graduating from Virginia Tech in 2007 with dual degrees in communication and business management, Leaton won a national competition that awarded him an internship at Walt Disney Pictures. After winning the Film Your Issue contest—for a short film he directed and edited in Uganda—and interning at Disney, Leaton stayed in Los Angeles to pursue a directorial career. Then, during a stint as a post-production assistant, he found something else he enjoyed: film editing. He set his sights on joining the Motion Picture Editors Guild.

This, he says, is where his education served him well, giving him self-assurance and a strong work ethic. "I don't think I would have had the guts, drive, or passion to pursue a career in Hollywood," he says, "if Virginia Tech hadn't given me the confidence to break into the very competitive entertainment industry."

Becoming a member of the Motion Picture Editors Guild can take years, but Leaton was fortunate. In 2009, he made it onto the guild's roster and in 2012, FremantleMedia hired him to work on a game show called "Total Blackout," which eventually led to "America's Got Talent" with the same company. Although Leaton's role is as a freelance editor, he has had a steady income since working with the show.

"I'm proud to work on a family show that features people from all walks of life and that all ages enjoy," he says. "I'm a small part of a show that offers wholesome



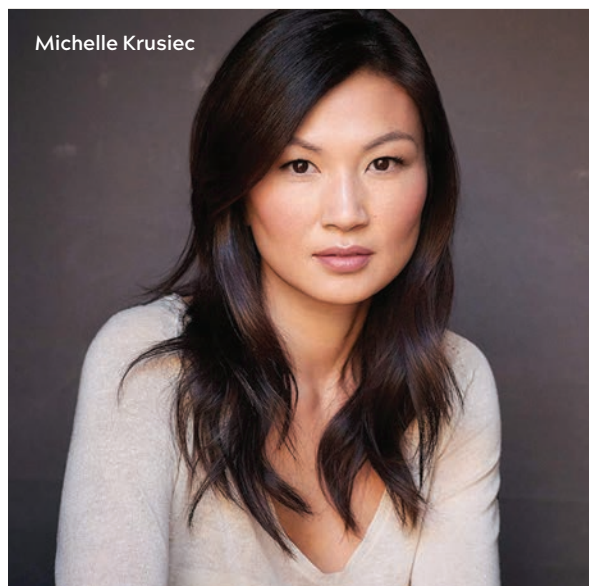
"I'm proud to work on a family show that features people from all walks of life."

entertainment to the U.S. and countless other countries throughout the world."

For the seven years he has been with the production, he has watched the show's ratings continue to climb. In 2014, he was there when Guinness World Records named "America's Got Talent" the world's most successful reality-TV format.

Yet when asked what his greatest accomplishments are, Leaton looks back at his time in Blacksburg.

"One thing I'm the proudest of," he says, "is being a Hokie." ■



Michelle Krusiec

IN FRONT OF THE LENS

HOKIES OFTEN PLAY ROLES ON SCREEN AS WELL AS BEHIND THE SCENES.

Scores of College of Liberal Arts and Human Sciences graduates serve as news anchors and correspondents, including political science major Brian Sullivan '93, news anchor at CNBC, and communication majors Peggy Fox '86, WUSA anchor in Washington, DC; Hoda Kotb '86, co-host of the "Today" show; Molly Line '99, Fox News correspondent; Jummy Olabanji '06, WNBC anchor in New York City; and Pierre Thomas '84, senior justice correspondent for ABC News.

College alumni appearing on screens large and small as actors include communication major Azita Ghanizada '98 and theatre arts majors Sara Erikson '01, Lauren Koslow '79, Michelle Krusiec '95, and Elizabeth Roberts '98.

PLAYING IT SAFE: Amy Azano helped organize a music concert at Virginia Tech's Moss Arts Center that was friendly to children with autism spectrum disorders. Designed for children like her son, the concert featured an instrument petting zoo and softened acoustics and lighting.

humanity at the Core

College of Liberal Arts and Human Sciences
faculty members place people at the center
of their work.

Amy Azano

Creating accessible experiences
for children with autism

WHEN HER KIDS WERE YOUNG, Amy Azano avoided most events because her son, as a child with autism spectrum disorder, found them too

loud and bright and crowded. Then, one day, Azano's family attended a football game in a private box. The quieter, more controlled setting enabled her son to enjoy a game for the first time.

Years later, that experience inspired Azano, an associate professor in the Virginia Tech School of Education, to found SAFE: Supporting Autism Friendly Environments. Based in the Center for Autism Research, the program broadens access to entertainment for children with autism and their families by taking into account those with sensory challenges and related anxieties.

"Outings that most children find fun—trick-or-treating, miniature golf, a trip to the movie theatre—can be overwhelming or even terrifying for those with autism," says Azano. "Yet with simple and creative interventions, those same activities can become accessible and enjoyable."

Azano and the rest of the SAFE team work with local partners to make events more soothing. A movie theatre will lower the sound and raise the lights to avoid total darkness, while a shopping mall will mute sounds and dim lights.

Some events provide access to a quiet room to enable retreats from the crowd, while others allow the children to preview attractions before opening hours. Hokie BugFest, Virginia Tech's annual celebration of creepy crawlers, for example, offers an advance viewing of a flea circus.

"There's more than one way to experience the world," says Azano. "Interventions for children with autism are often designed to teach them how to interact in social settings. People with autism are constantly trying to negotiate their sensitivities to navigate through life. SAFE raises awareness that the world can be malleable, too. The world can bend toward the person with autism; the adjustments don't have to move in just one direction." ■



SOME ASSEMBLY REQUIRED: When members of the FutureHAUS Dubai team arrived at the site of the Solar Decathlon Middle East, they had just days to reconstitute the house.

Megan Dolbin-MacNab

Identifying aging-in-place opportunities

WHEN FUTUREHAUS DUBAI—the creative collaboration of a team of more than a hundred Virginia Tech students and faculty members—was named the world’s best solar home, it reflected more than clever building technologies. It also showcased aging-in-place best practices.

In November, the interdisciplinary team earned a first-place victory in the 2018 Solar Decathlon Middle East, a global competition aimed to accelerate research on building sustainable, grid-connected, solar homes. In building the home, the team sought to challenge the status quo of traditional homebuilding, according to Joe Wheeler, an architecture professor who served as lead faculty of the project.

As part of that team, a College of Liberal Arts and Human Sciences researcher shared insights on how human inhabitants could interact with the home’s state-of-the-art technology. Megan Dolbin-MacNab, an associate professor in the Department of Human Development and Family Science, offered her expertise on intergenerational family relationships to ensure the home can accommodate its inhabitants in all stages of life.

“FutureHAUS highlights how technology can be leveraged to support the needs of individuals, couples, and families across the lifespan,” she says. “For example, elements of FutureHAUS can help older adults stay in their homes longer, support parents and family caregivers, and facilitate healthy relationships. It’s been rewarding to partner with the FutureHAUS team to explore ways that homes can enhance the lives of their inhabitants.” ■

Nicholas Copeland

Centering farming practices on humanity

FIELDS OF SNOW PEAS ENCOMPASS Guatemala’s mountainous landscape. Lush and green, these non-native crops are the manifestation of hours of labor by indigenous farmers, who grow the produce for export.

Unfortunately for the farmers, says Nicholas Copeland, an assistant professor in Virginia Tech’s Department of Sociology, these export crops are chemically intensive to produce, as purchasing specifications require no blemishes on the vegetable or fruit. Many of the farmers have taken on debt to purchase costly pesticides and fertilizers, expenses that ultimately forced many to sell their property.

Copeland believes there’s a better way: Farmers can sustain themselves, their communities, and urban populations in an ecologically sound way that works in harmony with their worldviews.

“Food security is making sure you have enough food or calories to survive,” Copeland says. “Food sovereignty involves the ability of people to produce food and to control what they produce, how they produce it, and how they sell it.”

Using a Core Fulbright Scholar Program grant, Copeland is expanding a multiyear research project to study sustainable food programs in Guatemala. In addition to examining the impact of cash crops, Copeland looks at alternative farming practices, such as agroecology, which is ecological agriculture focused on domestic consumption.

“Crop diversification is a huge part of agroecological gardens—and a central component of food sovereignty for Guatemalan farmers,” he says. “These gardens aren’t on large parcels of land, but people are able to grow coffee, fruits, and vegetables that are a staple in their diet. I’m hoping this research will both highlight models of success and encourage additional funding of them.” ■



IN THE FIELD: A farm worker walks through a coffee plantation near Antigua, Guatemala.



CHALLENGING PERCEPTIONS: Ashley Shew is using her National Science Foundation grant to research the real needs—rather than the assumed needs—of those in the disability community.

Ashley Shew

Ensuring people with disabilities get the technologies they need

THE BRACELET LOOKS UNASSUMING, just like any other smart technology worn around the wrist. But rather than counting steps or heartbeats, it vibrates an alarm when it tracks the user subconsciously begin to pull out strands of hair. For those with trichotillomania, instead of following the compulsion to yank out their hair, the wireless device helps them notice the gestures and change their behavior.

This tool, along with other technologies for the disability community, has long intrigued Ashley Shew, an assistant professor in the Virginia Tech Department of Science, Technology, and Society. And now, with a prestigious National Science Foundation Faculty Early Career Development Award, she’ll be able to investigate the personal accounts of people with disabilities, as well as their opinions of the technologies designed for them.

“I’m interested in the storylines that disabled people tell about their bodies and how their relationships with technology differ from popular and dominant narratives we have in our society,” says Shew, who identifies herself as disabled.

Her research focuses on discrepancies between how scientists and engineers understand and explain their work related to disability and the actual needs and wants of people with disabilities. Shew believes there is a disconnect between media-based depictions and reality within the realm of science education and technology design.

“This means people aren’t always designing with real users in mind, but with ideas about what users want based on the entertainment media,” she says. “This is problematic because nondisabled people create and depict disabled people. There is little authentic disability representation in the media, so all these

media-driven narratives about technology get fed into engineering.”

Shew cites several misleading, media-supported tropes. Negative stereotypes encourage the public to view disabled people with pity, as sinners or fakers, or as resource burdens. And often, unlike the trichotillomania bracelet, whose subtlety allows the user privacy, many technologies, such as wheelchairs or exoskeletons, are highly visible. Some people who could benefit from viable supportive devices might shy away from them to avoid public skepticism or castigation.

And the reverse depictions are just as misrepresentative.

“There are also tropes about inspiration and courage,” Shew says. “The one people lean on involves a focus on inspiration and courage, along the lines of, ‘You’re such an inspiration because you’re disabled in public.’ If you’re not inspiring, you’re courageous to overcome what you’re overcoming. If we believe you’re truly disabled, then if you’re out having a regular life, you’re considered heroic in ways that don’t map onto real life at all.” ■

First Time's the Charm

Everyone knew Virginia Tech's inaugural Giving Day—held March 20–21, 2018—would entail a great deal of work. But few expected it to be so much fun. “The Hokie spirit was alive and well on Giving Day,” says Rosemary Blieszner, dean of the College of Liberal Arts and Human Sciences.

The first to show his spirit was Jerry Hulick, who graduated in 1973 with a political science degree. Soon after Giving Day was announced, Hulick became the university's first graduate to offer a challenge grant. He ended up awarding the college two challenge grants totaling \$10,000.

With his help, the College of Liberal Arts and Human Sciences garnered the highest overall participation in the entire university, for which it received a \$1,000 challenge grant from Vice President for Advancement Charlie Phlegar.

Blieszner in turn issued dean's challenges to the college's departments and schools, for both amount raised and total number of donors. The Marching Virginians, a School of Performing Arts ensemble, marched into first place on both challenge grants. But the entire college community pitched in, all to an incredible result. The college raised more than \$101,000 from 805 gifts.

“With this first-ever Giving Day, we've raised more than funds for our programs,” Blieszner says. “We've also inspired a broader appreciation of the power of philanthropy to strengthen our college and all it offers our students, our community, and the world.”

Giving Day 2019 will be held March 19–20. Visit givingday.vt.edu to learn more.



TEAM SPIRIT: Dean Rosemary Blieszner (center) joined some team members for a little frivolity during Virginia Tech's inaugural Giving Day. Note the “VT” salute on the front row that includes a bobblehead of David McKee, past director of The Marching Virginians.



Cleveland

Miller

FACE TIME

THE COLLEGE OF LIBERAL ARTS and Human Sciences has named Daniel Cleveland as its first assistant dean of advancement, a position in which he works to elevate philanthropic support, enhance alumni engagement, and raise the college's profile.

Cleveland most recently served as executive director of major and planned gifts at Bradley University in Peoria, Illinois.

Joining Cleveland in leading engagement of the college's more than 60,000 graduates is Christina Miller, the college's new director of alumni relations. Miller most recently served as associate director of alumni relations at Juniata College in Huntingdon, Pennsylvania.

BACK TO SCHOOL

IT'S TIME TO MAKE PLANS! Reunion Weekend 2019 will take place June 6–9. Highlights will include dinners on the Drillfield, behind-the-scenes tours, happy hours, and time to connect with friends.



Visit alumni.vt.edu/reunion2019.

Paying It Forward

The Dean's Roundtable Scholarship is supporting Danielle Jeffers's passion for helping others afford college.

Danielle Jeffers was packing for a study abroad trip to the Steger Center for International Scholarship in Switzerland when she received a letter from the College of Liberal Arts and Human Sciences. Only moments before, the multimedia journalism major had been worrying about the logistical challenges of studying overseas.

As she read her mail, a sense of joy washed over her. She'd been chosen as the 2018–19 recipient of the Dean's Roundtable Scholarship, a merit-based award honoring an outstanding student within the college.

“Scholarships allow me to enjoy the learning process and take advantage of everything,” Jeffers says. “And the Dean's Roundtable Scholarship came at a great moment because I could enjoy my study abroad knowing the award would help cover my senior year.”

The Dean's Roundtable, an advisory board to the college, chose Jeffers with enthusiasm. “Danielle's initiative and desire to serve others made her a strong prospect for the scholarship,” says Jerry Hulick, chair of the Dean's Roundtable and a 1973 graduate in political science. “She's a great example of a liberal arts student who raises the bar for her peers and exemplifies the spirit of the university.”

Jeffers met all the scholarship's qualifications: strong academic achievement, leadership, and service to others. This included her work as a scholarship coach through her company, Dough 4 Degrees.

Jeffers is an expert in funding one's higher education, for which she discovered a flair during her senior year of high school. It was then she learned that recent family financial difficulties meant she would have to pay her entire way through college. Undaunted, she researched every support opportunity available and soon found herself able to afford a Virginia Tech degree—debt-free.

During her first year at the university, she discovered she was in a unique situation because many of her peers had long-term student loans that would take years to repay.

She offered to help other students find cost-free financial aid. Then, on a whim during her second semester, she presented the idea for a scholarship-coaching business during a pitching challenge of Virginia Tech's Apex Center for Entrepreneurs. She was a finalist and received positive feedback.

To learn more about being an entrepreneur, Jeffers completed an externship with Thomas Harrelson Jr., chairman of TMH Global International, LLC, who

helped her develop a plan to run the scholarship-coaching business while continuing as a full-time student.

“Scholarships shape the experiences of students everywhere and give them access to a life of financial freedom,” Jeffers says.

In 2019, Dough 4 Degrees is celebrating its third anniversary.

“It's no joke,” Jeffers says.

“Running a business and being a student is no easy task. But it's the best experiential learning opportunity I could have. And I'm grateful for the Dean's Roundtable Scholarship because it supports me along my path.”

“Scholarships shape the experiences of students everywhere.”

SHARING THE WEALTH: Danielle Jeffers's quest to fund her own education led to an entrepreneurial venture that makes college affordable for others.





A SENSE OF PLACE: Sharyn McCrumb, photographed at Potts Mountain in Craig County, Virginia, has sold more than 3 million copies of her books, which are usually set in Appalachia.

Sharyn McCrumb

The bestselling author takes inspiration from the history and folklore of the American South.

➤ Sharyn McCrumb has driven 180-mile-an-hour laps in a NASCAR race car, allowed herself to be strapped into Tennessee’s electric chair, and fired an 1841 muzzleloader so hot it felt like a curling iron scorching her palm—all in the interest of finding authentic details for her fiction.

“In third grade, when everyone else wanted to be a cowboy or stewardess, I declared I was going to be a writer,” says McCrumb, now the bestselling author of 27 novels. “My storytelling instinct comes naturally. My great-grandfathers were circuit preachers in North Carolina’s Smoky Mountains, and my father used to tell me stories every night; just picture Andy Griffith narrating *The Iliad*.”

Best known for her Appalachian “Ballad” novels set in the North Carolina and Tennessee mountains, McCrumb earned her master’s degree in English from Virginia Tech in 1985. Her award-winning books, studied in universities worldwide, have been translated into nearly a dozen languages. *The New York Times* has called her writing “elegiac”; the *Toronto Star* once dubbed her “Jane Austen with an attitude.”

Although her novels cannot be easily characterized, they tend to touch on the history and folklore of the American South. *The Ballad of Tom Dooley* plumbs the true

tragic tale of the accused murderer. In *St. Dale*, the death of racing legend Dale Earnhart inspires a *Canterbury Tales*-style pilgrimage of fans. And McCrumb’s latest, *The Unquiet Grave*, brings to life one of the strangest murder trials in U.S. history—the case of the Greenbrier Ghost. In that 1897 trial, the spectral testimony of a slain woman condemned her husband to death in West Virginia.

“My books are like Appalachian quilts,” McCrumb says. “I piece brightly colored scraps of legends, ballads, and fragments of rural life together into a whole, so when you step back you can see the pattern. Not only does a story emerge, but also a deeper truth about the culture of the Mountain South.”

Peter Pickett

➤ When Peter Pickett puts his soprano cornet to his lips, the heralding sound resonates above the Lexington Brass Band. But what sets Pickett apart from the other cornet players is his instrument. His own company made it.

The business—Pickett Brass and Blackburn Trumpets—melds together Pickett’s passions for music and engineering, both of which he studied at Virginia Tech.

“The university offered endless opportunities for making music and engineering,” he says. “It also supported exploration and the freedom to combine my degrees.”

After receiving bachelor’s degrees in mechanical engineering in 1995 and music performance in 1996, he completed a master’s degree in mechanical engineering, also at Virginia Tech, where he studied the acoustics of the trumpet and active noise control.

Pickett then went to work as a mechanical engineer for a printer company. But ever dedicated to music, during his off-hours he started Pickett Brass. Based out of his garage in Lexington,



Kentucky, the company first created decorative replacement options for standard finger buttons on trumpets.

These stylized adornments led Pickett to collaborate with musician Vincent DiMartino. Together they developed specialized trumpet mouthpieces with a range of options for players. Pickett says the design and philosophy of the mouthpieces helped the company differentiate itself from its competitors.

“We design mouthpieces for many musicians, including Doc Severinsen, Jens Lindemann, Roger Ingram, Allen Vizzutti, and Wycliffe Gordon,” he says. “This taught us what does and doesn’t work for players.”

The mouthpieces afforded Pickett the opportunity to become a full-time entrepreneur in 2014. Two years later, he acquired a well-respected trumpet-making company, Blackburn Trumpets.

“It’s different from making mouthpieces,” he says. “The reward is significant, though. Having an artist play an instrument that was handmade in our shop is awe-inspiring.”

On paper Pickett’s career decisions look planned, but he considers his success to be a series of fortunate opportunities. And Virginia Tech played a large role in his ability to tap technology to create superior instruments.

“There’s no better place to recognize the vocations that resonate within you,” he says. “Otherwise, I wouldn’t have had the skills I needed to bring Pickett Brass to life.”

“Having an artist play an instrument that was handmade in our shop is awe-inspiring.”



INSPIRED LIVING: Madierra Dennison is leading a fulfilling life in Chitipa, Malawi, as a Peace Corps volunteer.

MADIERA DENNISON

MADIERA DENNISON begins each morning with coffee, just as she did while double majoring in communication and in religion and culture at Virginia Tech. The difference is now the 2017 graduate awakens to life in Chitipa, Malawi, where she makes her coffee on a cookstove called an mbaula.

As a Peace Corps volunteer, Dennison teaches English at a community-run secondary school. She also facilitates clubs, outreach projects, and programs on topics such as HIV/AIDS prevention, malaria, and gender-based violence.

Every day she practices the Malawian languages and finds the community inspiring. “I’m incredibly proud of my students,” she says. “They work diligently to improve their English even though they have little to no electricity, limited resources, overcrowded classrooms, and few teachers.”



LEADING THE WAY: Aaron Rouse brings the leadership skills he acquired while at Virginia Tech and as a professional athlete to city government.

Aaron Rouse

The former NFL player took a run for City Council—and scored.

Aaron Rouse knew it was time to return home. The former football safety for Virginia Tech, where he graduated with a degree in sociology in 2007, had just spent three years as a Green Bay Packer and one as a New York Giant when a car-accident injury ended his professional football career. Instead of resting on his athletic laurels, Rouse returned to his Virginia Beach roots to give

back to the community that had supported him during his childhood.

Rouse says that helping to provide for his family while growing up in a single-parent household in impoverished neighborhoods taught him responsibility, discipline, and hard work. These qualities put him in a position that would change his life, when, in his junior year of high school, Coach Frank

Beamer offered him a football scholarship at Virginia Tech.

Since returning home, Rouse has started a new life centered on community service. In 2016, he founded Rouse’s House, an organization that promotes education and provides a consistent, positive message to remind people to make progress toward their goals.

“I wanted to show others in our community it doesn’t matter where you come from; it’s all about setting goals, being persistent and determined, and keeping a positive attitude,” he says. “The sky’s the limit after that.”

Rouse also leverages his athlete status to be a role model for youth. He has coached a middle-school football team, spoken at an anti-violence event, and helped organize a school-supply giveaway for students in need.

In 2019, he is taking his service one step further—as an elected official on the Virginia Beach City Council. Although in the past he never would have imagined becoming a politician, he now sees this path as a way to make a difference. It is also an opportunity, he says, to carry out a philosophy he absorbed as a Hokie—leadership is not a self-centered endeavor.

“To be a leader means allowing everyone to voice concerns and choosing the best ideas,” Rouse says. “When you work together, you can accomplish anything.”

JAMIE SLYE A designer offers a tip of the hat.

A SKEPTIC AGREED TO TRY ON one of Jamie Slye’s hats, even as the customer swore she was not a hat person. The moment the crown touched her head, though, her demeanor changed. She stood a little straighter. And she purchased the hat.

Slye ’06, who majored in fashion merchandising and design at Virginia Tech, launched Jamie Slye Hats and Accessories in Austin in 2012. Featured in *British Vogue*, her designs mix modern fashion with a vintage flair, hinting back to her roots in the Shenandoah Valley.

She attributes her success to the people skills she learned in college. “There is value in building authentic and honest relationships with people,” she says. “I love helping people find their inner confidence. The hat is merely the vehicle to find it.”



THINKING CAPS: Jamie Slye (right) and two models wear her signature hats during a photo shoot in Denver.



THE CALM BEFORE THE STORM: As a foreign correspondent for CNN, Atia Abawi often covered war zones. Here she reviews security briefing materials while traveling to Kunar Province in northeastern Afghanistan on a military helicopter.

Atia Abawi

A long-time foreign correspondent turns to the storytelling power of novels.

One evening while watching the news, Atia Abawi was struck by the faces of young Syrian refugees. It was 2015, and she was curled up in her Jerusalem apartment nursing her infant son.

“I was seeing mothers and fathers pushing strollers along busy European highways and through muddy fields,” she says. “They were placing their babies in rubber dinghies that could sink at any moment. And I thought about how blessed I was that my parents had taken a similar risk decades earlier.”

Abawi’s parents fled Afghanistan a month before she was born, in the wake of the Soviet invasion of 1979. They eventually found refuge in the United States. “If my parents hadn’t decided to leave when they did,” she says, “I wouldn’t have been in this safe, comfortable apartment taking care of my child.”

At the time of the news broadcast, Abawi had begun working on a book, but she quickly switched its focus to the plight of Syrian refugees. She traveled to Turkey and then to Greece to conduct research. On the island of Lesbos, she saw remnants of families who had taken the perilous journey.

“I saw thousands and thousands of lifejackets, along with battered boats and lost baby clothes,” she says. “It was jarring and depressing and gutting.”

She also visited a cemetery dotted everywhere with fresh mounds of dirt, some just large enough to cover a child. “People were literally dying in their struggle to survive,” she says. “But staying behind was a much worse option.”

The chance to tell people’s stories was the reason Abawi had wanted to be a journalist. After earning her communication degree from Virginia Tech in 2003, she joined CNN—where she eventually became the Afghanistan correspondent—and then NBC.

But as a broadcast journalist, she had at most two minutes to share a story. She decided to turn to novels.

Her first book, the critically acclaimed *The Secret Sky*, is set in Afghanistan. Her second, *A Land of Permanent Goodbyes*, follows the harrowing escape of a young Syrian refugee. Both Iowa

and Texas recently chose that 2018 book for their statewide reading programs.

“With my novels, I’ve been able to go deeper into complex stories,” Abawi says. “I’ve been able to share the truth in a way I could never do as a journalist.”

“I saw thousands and thousands of lifejackets, along with battered boats and lost baby clothes.”

SWEET SMELL OF SUCCESS: Maggie Callahan is an artist when it comes to creating confectionery masterpieces.



"I wanted to create unexpected shapes, like lipsticks and robots and cactuses."

Maggie Callahan

Her artistry breaks the mold of tradition.

At two o'clock one morning, Maggie Callahan created a diamond. As she faceted her concoction like a gem and coated it with drips and splatters, her commercial kitchen looked like Jackson Pollock had taken up confectionery art. Callahan had found her muse in handcrafting chocolate delicacies.

Thus began a new adventure for the lawyer-turned-chocolatier.

"I practiced law for a decade, starting my career in New York," says Callahan, who graduated from Virginia Tech in 2000 with a political science degree and went on to attend Harvard Law School. "Then I practiced law in other cities, but I felt unfulfilled. My creative side wasn't getting what it needed."

When Callahan and her husband moved to Austin, Texas, he encouraged her to attend Le Cordon Bleu College of Culinary Arts, where she discovered a passion for sculpting with chocolate.

"I began to see the potential of chocolate as an art medium," she says. "You can do anything with it."

This gave her an idea. After doing research, she realized few chocolatiers were breaking boundaries.

"It was all chocolate for high-volume manufacturing or done in a traditional French style," Callahan says. "I wanted to create unexpected shapes, like lipsticks and robots and cactuses."

In 2013, Callahan launched Maggie Louise Confections, which has since grown into a million-dollar company with an e-commerce business and a partnership with Neiman Marcus.

From such tasty offerings as pecan-flavored camouflage hearts, hazelnut-mocha sushi, and salted-caramel cowboy boots, her company had found its niche.

"The magic," she says, "is in turning an established product into something new and delightful."

With specialized packaging around her whimsical designs, Maggie Louise Confections has rethought the traditional box of chocolates. And Callahan's ability to navigate new directions is a throwback, she says, to her years as an undergraduate.

"I had a mosaic of experiences that opened my eyes to the different possibilities out there," she says. "I was able to study abroad and pursue not just political science, but art history and a range of other subjects."

And now she looks upon a world that is creative, artful, and delicious.

Great Expectations

Outstanding Alumnus

Adam Kendrick

The theatre arts graduate brings joy to audiences from both sides of the curtain.

Adam Kendrick's workplace is often a circus—literally. But as a former HokieBird used to entertaining a stadium filled with Virginia Tech fans, he is undaunted by having to cue clowns, signal crew members to bring up spotlights, and ensure acrobats are properly placed.

It's that fearlessness that helped lead to Kendrick's being named the 2018–2019 Outstanding Recent Alumnus for the College of Liberal Arts and Human Sciences.

"The board members were impressed with how quickly Adam successfully ascended in his career and how he used his talents to serve others," said Grayson Gosney, a 1996 graduate in sociology who serves as president of the college's Alumni Advisory Board, which selected Kendrick for the honor. "Adam's dedication to making sure the audience experience is uplifting—whether it was portraying our HokieBird, his behind-the-scenes stage management, or his performances—serves as an inspiration for us all. I was fortunate to see Adam's talent at work during the Atlanta run of Cirque du Soleil's amazing and complicated *Luzia* production."

Kendrick, who graduated from Virginia Tech in 2010 with degrees in both theatre arts and marketing management, is a stage manager for Cirque du Soleil's North American Tour of *Luzia*, a show inspired by the richness of Mexican culture. Cirque du Soleil, which translates to "circus of the sun," is one of the world's largest producers

and distributors of live entertainment, bringing original performances under big tops and in theatres or arenas. Each production, like *Luzia*, is a blend of circus styles from around the world, each with its own story.

When he's not on the road, Kendrick performs at Walt Disney Resort in Orlando, the city he calls home. He also has side gigs in New York City. At the annual Tony Awards, he is a telecast orchestra aisle captain, assisting with the seating of nominees and other attendees. For two years, he has stage-managed the Stars in the Alley Outdoor Concert in Times Square.

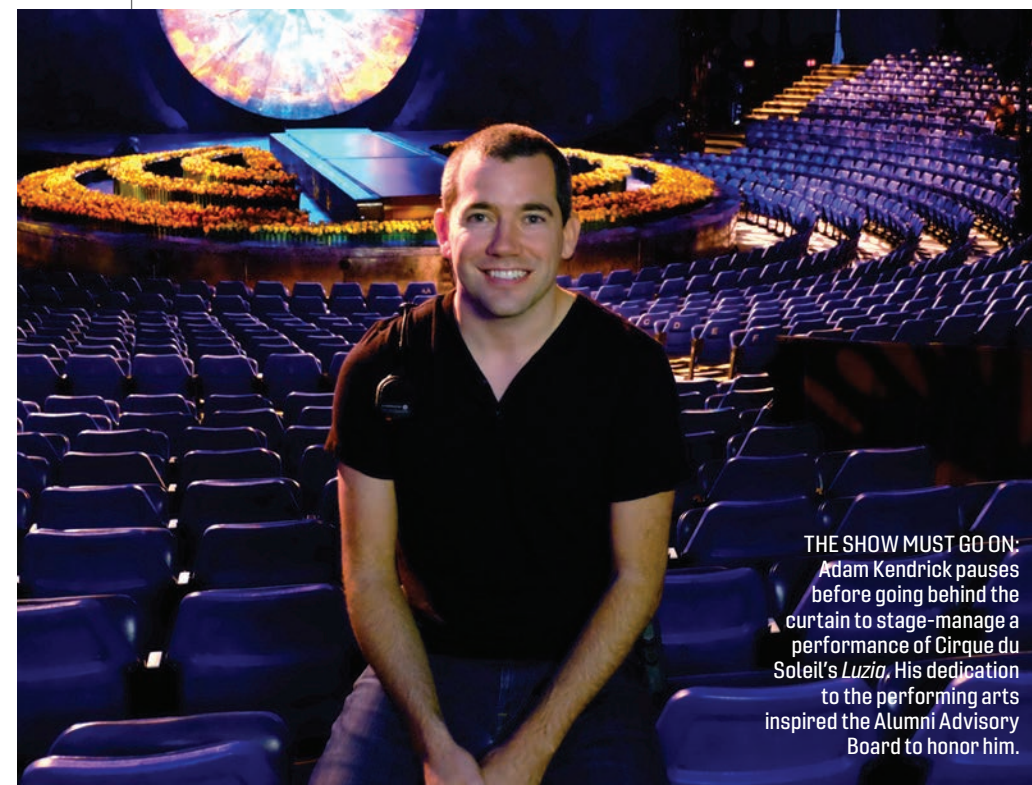
In addition, Kendrick volunteers for Broadway Cares/Equity Fights AIDS. There he is a talent host for celebrities at the Broadway Flea Market and Grand Auction and a stage manager for the nonprofit's annual fundraiser performance, *Broadway Bares*.

Kendrick learned early about the magic of making people happy, whether it was as the HokieBird or a first-time paid stage manager for a small professional theatre near his hometown of Hopewell, Virginia.

"I'm always reminded of the difference you can make through performance," he says. "You can make people smile and laugh. You can have an impact."

But Kendrick also knows the importance of behind-the-scenes work. Every person involved in any production creates the entire experience, which he has overseen for the past nine years with Cirque du Soleil.

"As a stage manager, I keep the show going no matter what happens," he says. "My job is like a puzzle. Every day I have a different collection of pieces, and every day I'm responsible for making them form a coherent, enjoyable picture."



THE SHOW MUST GO ON: Adam Kendrick pauses before going behind the curtain to stage-manage a performance of Cirque du Soleil's *Luzia*. His dedication to the performing arts inspired the Alumni Advisory Board to honor him.



IT'S ELEMENTARY: Sherlock Holmes, played with great panache by Benedict Cumberbatch, is the quintessential genius-as-detective.

Brain Teasers

What can detective fiction teach us? **by Paula Byron**

THE STOUT, FLORID-FACED gentleman with fiery-red hair posed “quite a three-pipe problem.” And so Sherlock Holmes “curled himself up in his chair, with his thin knees drawn up to his hawk-like nose, and there he sat with his eyes closed and his black clay pipe thrusting out like the bill of some strange bird.”

In those tobacco-infused moments of contemplation, Holmes does more than solve the mystery of “The Red-Headed League”; he also devises a trap to catch the criminals.

“That’s one of Sherlock’s great strengths,” says Shoshana Milgram Knapp, a Virginia Tech associate professor of English who teaches detective fiction. “He doesn’t limit himself to the mystery his redheaded visitor brought him, which was why the man’s ludicrous job had disappeared. Instead, Sherlock redefines the problem: Why, for months, had the man been lured from his home at the same time every day?”

Detective fiction, Knapp believes, is an excellent model for life—and for reasoning. It teaches us to identify the telling detail, to find nuanced patterns, to separate the important from the inconsequential and irrelevant, and to challenge our own assumptions. It requires us to search for consistency and coherence and to weigh the reliability of evidence as we seek to assemble the entire puzzle.

“Ultimately, detective fiction isn’t about crime, but about the truth,” says Knapp. “It’s not surprising that some totalitarian regimes, such as Nazi Germany, disliked detective fiction because it shows that an individual mind can discover the truth, even with an entire force of people working to prevent the truth from emerging.”

The genre also carries the component of justice, Knapp adds. It’s not enough simply to use your mind to discover the truth; you need to ensure that other

people learn it as well, to allow corrective actions to be taken.

“Detective fiction rewards the alert mind at the same time it trains us to think, to find the truth, and to champion justice,” Knapp says. “Sherlock Holmes stories are classic examples. And Dr. Watson, with his non-genius mind, is the perfect foil because he allows Sherlock to explain his deductions to the reader.”

Watson does often admit to feeling the limitations of his own acumen.

“I trust that I am not more dense than my neighbors,” he laments, upon the solving of a mystery, “but I was always oppressed with a sense of my own stupidity in my dealings with Sherlock Holmes. Here I had heard what he had heard, I had seen what he had seen, and yet from his words it was evident that he saw clearly not only what had happened but what was about to happen, while to me the whole business was still confused and grotesque.”

Perhaps poor Watson—like others of us with non-genius minds—could benefit from a further delving into detective fiction. ■

INAUGURAL GIVING DAY

COLLEGE OF LIBERAL ARTS AND HUMAN SCIENCES EDITION

In March 2018, during Virginia Tech’s first-ever Giving Day, the College of Liberal Arts and Human Sciences found itself in the lead—barely—for Vice President for Advancement Charlie Phlegar’s challenge grant for highest overall participation. A friendly rivalry with the College of Engineering ensued. Ultimately, in the closing seconds of Giving Day, the College of Liberal Arts and Human Sciences triumphed, gaining the grant and, just as happily, bragging rights for the year. The college hopes to rally its alumni and other supporters again on **Giving Day 2019**, to be held March 19 at noon to March 20 at noon. Learn more at givingday.vt.edu.

THE UNIVERSITY



\$1.62 Million

Amount Raised for Virginia Tech

5,470

Total Number of Gifts



\$5 to \$100,000



Range of Individual Gifts

March 19–20



Giving Day 2019

(From Noon to Noon, EST)

THE COLLEGE

No. 1



The College’s Ranking for Highest Overall Participation



2



Number of Challenge Grants Issued by Jerry Hulick '73

\$101,134



Amount Raised for the College

805



Number of Gifts to the College

DEPARTMENTS, SCHOOLS, AND PROGRAMS



2



Number of Dean’s Challenge Grants Issued for the College (Amount Raised and Number of Donors)

18



Number of Participating Departments, Schools, and Programs



No. 1



Ranking Earned by The Marching Virginians in Both Dean’s Challenge Grants



Number of Departments, Schools, and Programs Hoping to Best The Marching Virginians in March 2019

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TAKING A BOW: Charlotte Cannon, a junior double majoring in visual communication design and music performance, was able to play on stage with Yo-Yo Ma during a master class he offered at Virginia Tech.

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