

FALL/WINTER 2022

IMAGINE

University Libraries at Virginia Tech Magazine

CELEBRATING
150 YEARS

Preserving
Appalachian history

Designing student
success

In this issue, we celebrate the university's sesquicentennial and the University Libraries' role in the history, present, and future of Virginia Tech.

ON THE COVER

Students study in the "Old Library," a converted chapel located on the current site of Newman Library.



Imagine

Fall/Winter 2022 Vol. 3, No. 2



Dear friends,

It is with great pleasure I share with you the fall/winter edition of the University Libraries magazine. As we all look forward to the holiday season, we bring the university's sesquicentennial celebration to a close. This magazine highlights the contributions the library has made during the celebration and throughout the last 150 years.

From students studying in the "Old Library," as pictured on the cover, to students pushing boundaries in virtual environments research using our studio's volumetric capture technology, University Libraries has evolved as the university and its needs for new information and technology resources evolved. All of these resources are maximized thanks to the expertise of our library faculty, staff, and supporters.

I invite you to take a few minutes during the hustle and bustle of the holidays and learn about the most recent innovative projects and scholarship highlighted here. All of these are made possible through the knowledge and expertise of our library faculty and staff and their collaborations and partnerships with fellow Hokies across campus and beyond.

Thank you for being a friend of the University Libraries. Cheers to 150 more years of Hokie innovation, creativity, and scholarship!

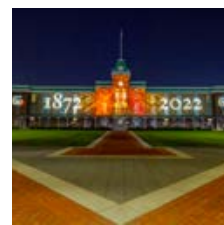
All the best,

Tyler Walters, Ph.D.
Dean, University Libraries
Virginia Tech

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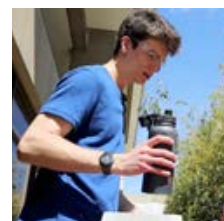
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Digital versions of Imagine magazine available online at lib.vt.edu/magazine

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Front cover: Old library interior, 1930, courtesy of Special Collections and University Archives. Features photos: Lane Hall, courtesy of Special Collections and University Archives; Joe Forte; Michael Cavicchio; Hayley Stout (photos by Chase Parker)

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150 years IN 150 photos

By
Jimmy Robertson
and Ann Brown

IN 2019, with initial preparations for Virginia Tech’s sesquicentennial underway, University Libraries Special Collections and University Archives Director Aaron Purcell and archivists LM Rozema, Anthony Wright de Hernandez, and John M. Jackson came up with an idea to create something unique — to let photos tell the story of Virginia Tech’s history.

“We began working with Virginia Tech Publishing, which is a part of University Libraries, and then we started talking to other people on campus,” Purcell said. “There was just a lot of interest in this project. So we kind of came up with it in-house.”

The book, entitled “No Ordinary Moment: Virginia Tech, 150 Years in 150 Images,” is a photographic journey into the known history of Virginia Tech and some of the lesser-known moments and achievements that shaped the university. The phrase “no ordinary moment,” from Governor Gilbert C. Walker’s address during Virginia Agricultural and Mechanical College’s first commencement ceremony in 1873, serves as an ideal theme.

The authors focused on different topics, chose photos for their sections, and wrote the captions. Purcell wrote the introduction and outlined the areas covered within the book. Jackson focused on Virginia Tech's land-grant mission, while Wright de Hernandez highlighted previously marginalized students and campus groups. Rozema's role centered on innovation's role at the university.

"We really wanted to highlight student activities, student groups that haven't really gotten the attention," Purcell said. "People just aren't aware of a lot of things that have gone on at the school that show the diversity and the fact that it is continuing to change and is continuing to represent a wider range of perspectives and voices. I think people will see that."

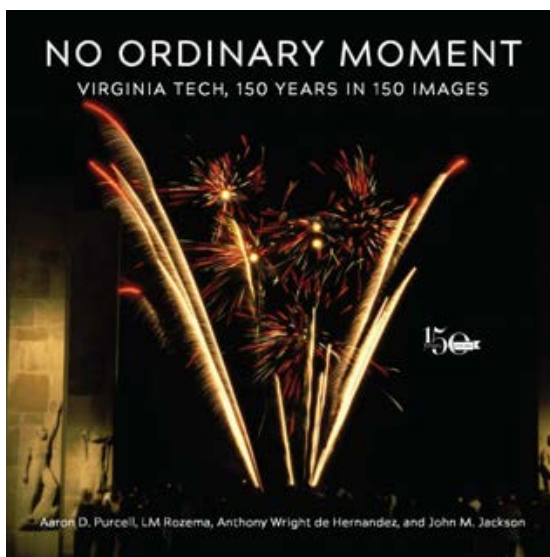
Virginia Tech Publishing shepherded the book from idea to finished product. It is the first Virginia Tech Publishing book published specifically for print. Copies can be purchased from the University Bookstore as well as from other online and brick-and-mortar retailers. In keeping with the University Libraries' and Virginia Tech Publishing's commitment to ensure access to information, "No Ordinary Moment" is also freely available online as a pdf download.

Proceeds from printed book sales will help fund future work and preservation by Special Collections and University Archives. ■



We really wanted to highlight student activities, student groups that haven't really gotten the attention ...

Aaron Purcell



GET THE BOOK
lib.vt.edu/go/150book



"HELLO, FRIENDS!"

Alumna Morgan Long builds a business on creativity and positivity

By Elise Monsour Puckett

MORGAN LONG'S bright and smiling face shines through the screen as she greets her almost 60,000 YouTube followers, "Hello, friends! It's amazing that you're here, right here, right now."

The 2017 Virginia Tech graduate who double majored in literature and language and Spanish is the videographer, illustrator, and content creator for her YouTube-based business, Morgan Long Creative. She creates cozy videos centered around simple joys and all things bookish. "I try my best to encourage people that they're valuable just for being who they are and that they deserve to enjoy their lives," said Long.

Before she became an entrepreneur, you could find Long with a camera in her hand and her nose in a book at Newman Library, where she held two student employee positions — one on the student services team planning events and the other as a videographer on the strategic communications team.

Long loves libraries. She said the scent of old books, quiet sounds of paper turning, and great minds at work is as comforting as a favorite blanket. "My time at the library makes up some of the best parts of my overall college experience. I absolutely

loved working at University Libraries, and I'm so incredibly grateful for my work experience there," said Long. "I learned how to work with a team on big organized events, such as the Virginia Tech Authors Recognition event. Clear communication, punctuality, and reliability were essential skills I learned with the student services team."

Long learned how to professionally see a video project from start to finish, including communicating with clients, storyboarding videos, filming and editing quality content, and managing social media posts. "This job exposed me to so many valuable cultural experiences I would have missed out on as a student," said Long. "I had the privilege of filming poetry readings, seminars at the Lyric, fashion shows celebrating Asian culture, exhibits on El Camino de Santiago, and so much more."

Her library work experience was essential in helping her land a job after graduation and aided in the development of the skills and discipline she now relies on every day as she runs her business.

After graduating in December 2017, Long landed a job with Brew Dr. Kombucha on the field marketing team coordinating events. She



then became a professional videographer with the Portland, Oregon, company Revant Optics, which she credits to her time at the library and the skills she learned there.

“All the while, I was making personal YouTube videos of travels or simple lifestyle content for myself,” said Long. “Then one day, I decided to see how many books I could read in a single day and film the process. For whatever reason, this video took off, receiving multiple thousands of views. It was then that I decided to start making more book-related videos and began to gradually grow an audience.”

On the contrary to trending short videos seen on TikTok and other social media sites, Long journeyed in the opposite direction, creating longer videos averaging 25 minutes and setting herself apart. Through her Spanish degree, she has also grown an international community for her business, with the United States only making up 30 percent of her audience.

At the start of the COVID-19 pandemic, Long was laid off from her full-time job at Revant Optics and decided to jump in and pursue YouTube full time. “Miraculously, it has all led to the life I now live,” said Long. “I’m extremely grateful to be able to run a business centered around love for life and books.

“One of the reasons I love reading is because it blurs most all boundaries of space, time, and life-circumstances,” said Long. “For the time you are reading, you are entirely immersed in a different reality, characters are friends, your world fades into the world of your book. And, somehow, you begin to see your book world in your actual world.

“I always remember how understood I felt when reading ‘Harry Potter and the Goblet of Fire,’” said Long. “Harry has to face a literal dragon. The gut-churning nerves he feels, followed by the adrenaline rush and confidence of just jumping in, concluded with the relief of having faced and completed the task are so relatable. When applying for and interviewing for jobs, I’d feel similar feelings and say to myself, ‘This is my dragon I’m facing.’ Immediately, I’d feel comforted and more confident.”

Just like books, Long said, video has a way of blurring boundaries and connecting people all over the world, despite life circumstances. “For however long the video lasts, we’re all sharing an experience,” said Long. “Usually, a love for books is what brings people to my channel. Then I think they stay because I begin to feel like a friend. I most certainly try to be a friend.”



**Your interests
are unique
and have
a purpose.
Believe in
yourself, oh
wondrous
you!**

Morgan Long

Long’s goal for her business is to brighten peoples’ days and inspire them to live their best lives. In addition to her YouTube channel, Long also runs a popular tea-themed Patreon account, where she earns the majority of her income with around 856 subscribers. It includes a worldwide book club, and subscribers receive a monthly illustrated postcard, hand designed sticker, exclusive videos, and printable content. Long also sells her art and illustrations there as well.

Once a year, Long launches a flower project that typically sells out within an hour. Long creates and designs specimen frames of pressed flowers, hand picked from her yard in Portland, and dried by pressing them in books.

Next on the horizon, Long is in the process of writing three books: a magical realism novel about a witch in her mid-20s trying to figure her life out; a children’s story involving a mermaid with an underwater library; and a collection of poems.

She also is working on a yearly stationery planner and hopes to launch a tea business in the coming years.

Long said her journey hasn’t always been easy. “Working in an industry that relies entirely on the whims, flighty trends, and elusive algorithm logic is crushing if one relies on numbers of likes and views as a measure of success,” said Long. “I can have a video that does extremely well, and then spend triple the amount of time on another very similar video and it flops.”

Long wants people to know that pursuing their interests, hobbies, and the things that bring them the most joy is never a waste of time. “The things that feel like a waste of time are quite often stepping stones to your dream life,” said Long. “Reading was this for me. When I was totally lost, trying to figure my life out after graduation, I sought comfort in my childhood’s favorite books. I’d spend hours reading and then feel guilty afterwards because it didn’t feel productive.” She didn’t know then that those hours of reading were leading her to her life now.

“Your interests are unique and have a purpose,” said Long. “Believe in yourself, oh wondrous you!” ■



Round of a-paws

Collaboration with therapy dogs brings support to studying students

By Elise Monsour Puckett

VIRGINIA TECH THERAPY DOGS Josie, Derek, and Wagner fetch stress from students with their companionship and unconditional love.

Kelsey Hammer, University Libraries' digital literacy and multimedia production librarian who works on projects related to digital life, media creation, and collaboration, said one of her big projects has been combining efforts with the Virginia Tech therapy dogs to support students in finding joy, space, and support on campus — especially in Newman Library.

Studies show that petting a dog or other animal can increase the hormone oxytocin, resulting in feelings of calmness and contentment. Additionally, these interactions can decrease cortisol levels, leading to lower anxiety and stress.

“Many of our dog events this year have centered on principles that so many of our collaborators share including wellness, celebration, and gratitude,” said Hammer.

Over the past year, University Libraries has teamed up with the therapy dogs for events including Pops and Pups; featuring popsicles for students studying for finals; three dog birthday parties with cake, snacks, photo opportunities, and 3D-printed dog-themed giveaways made in the Prototyping Studio; and Newman Library's classroom dedication to the therapy dogs, complete with a paw print plaque. One of the dogs, Josie, held office hours in Newman Library.

In May 2022, the VT Therapy Dogs Skills Showcase celebrated National Therapy Animal Day and highlighted the many of the dogs' talents. Students watched them demonstrate their helping skills, such as giving a hug or attending to a person who is upset, grabbed therapy dog



buttons and autographs, and gave the friendly pooches some pats.

“We also set up a huge smorgasbord of snacks and encouraged students to take handfuls!” said Hammer. “This was during finals and we know that can be a time where you might forget to eat or need an extra pick me up. Students had a ball!”

“We came together around a student idea to show off how fantastic our dogs are, celebrate them, and connect through growth rather than perfection,” said Rami Steinruck, resident in psychology at the Cook Counseling Center,

Photo by Kelsey Hammer.



Max Ofsa receives President's Award

By Mark Owczarski
and Laurie Stacy

THE PRESIDENT'S AWARD FOR EXCELLENCE, established in 1990 by President James D. McComas, is an annual recognition of full-time staff for their outstanding contributions and consistently excellent performance for Virginia Tech.

Twenty-six employees with a collective 277 years of service were nominated for the 2022 President's Award for Excellence. These employees were recognized during a ceremony on April 12, where President Tim Sands announced the winners. Each winner receives a letter of commendation from the president, a certificate, and a \$2,000 pre-tax award.

This year's event is part of Virginia Tech's sesquicentennial, celebrating 150 years of impact and engagement.

"The President's Award for Excellence recognizes outstanding performance, extraordinary contributions, and the highest dedication to the mission and vision of Virginia Tech," Sands said. "The determination and creativity of these individuals are an example to all of us, and we deeply appreciate their service to the university."

Max Ofsa, Prototyping Studio manager for University Libraries, has worked for Virginia Tech since 2013.

Jonathan Bradley, head of studios and innovative technologies for University Libraries, wrote in a letter of nomination: "Max has been in the process of brainstorming the growth of one of the University Libraries' most popular services, the 3D Design Studio. The space, which provided free 3D printing for all of campus, enabled numerous projects and hands-on experience with additive manufacturing technologies to students from all majors at Virginia Tech. Max's proposal provided a strong groundwork for the space, and University Libraries acted on building it. During this time, Max was involved with all the steps of seeing the space come to fruition, including service design, tool selection, space construction consultation, staff hiring and training, and, finally, the actual opening and management of the space." ■





Ed Lener inducted into Academy of Faculty Service

By Dave Guerin

VIRGINIA TECH RECENTLY HONORED faculty members for outstanding leadership and service with induction into the Academy of Faculty Leadership and Academy of Faculty Service. Through the Office of the Executive Vice President and Provost, the academies honor the exemplary contributions of faculty members of all classifications in formal service roles or in areas of leadership.

University Libraries' Director of Collections and Technical Services Ed Lener became one of the newest members of the Academy of Faculty Service.

"Virginia Tech's reputation and strengths as an institution are built upon the selfless service and leadership found throughout our faculty community," said Executive Vice President and Provost Cyril Clarke. "Our students benefit not only from the outstanding instruction and support provided by these faculty, but also from witnessing firsthand their advocacy in support of and commitment to teaching, research, and service. Congratulations to each of these new members of the Academy of Faculty Leadership and Academy of Faculty Service, and thank you for the example you set for our entire university."

Lener's recommendation for academy membership was based on his 24 years of service to the Commonwealth of Virginia Campaign as member and chair and for his service on the University Advisory Council on Strategic Budgeting and Planning, University Promotion and Continued Appointment Committee, Faculty Senate, COS Curriculum Committee, and the Commission on University Support. His humble reliability and dedication have earned him elected and appointed positions on various committees across the university.

Academy of Faculty Service nominees must have successfully completed an elected or appointed term of office in university governance, completed the assignment or set of responsibilities associated with a university-level project, or made commendable service contributions at the university level outside of usual responsibilities and ongoing formal governance roles. They must also have made a notable and demonstrable positive impact on the university as evidenced by the academy nomination statement and letters of support. ■

VIRGINIA TECH PUBLISHING

➤ Leading innovation and access

Summary of works since 2017

Virginia Tech Publishing started in 2017 but its history is rooted in a much deeper tradition. In 1989, the Scholarly Communication Project was established in Newman Library as a place to experiment with technology to produce online scholarship in new and developing formats. In 2013-2014, Virginia Tech played a leading role in advancing the idea of a community dedicated to the field of library publishing, which resulted in the creation of the Library Publishing Coalition. In the years since, the Library has continued to embrace the increasingly diverse products of research and scholarship, especially those that are more than just a paper version published online, including e-journals, interactive books, open educational resources, innovative digital projects, and audio visual materials.

20 BOOKS

Survive the Drive is a book about the biggest cause of accidental injury, death, and disability in the U.S. and how to reduce everyone's risk by following simple rules. This could save thousands of lives and tens of thousands of serious injuries.

Tom Dingsus, former director,
Virginia Tech Transportation Institute

18 OPEN TEXTBOOKS

➤ EXEMPLARY OPEN TEXTBOOK

Introduction to Biosystems Engineering (2021)

44,599 Downloads of complete book

34,110 Downloads of individual chapters

by people living in 93 countries

61 print books sold on Amazon

Making the text freely available will provide savings to the students and ensure wider usage, including in non-U.S. countries. With a broad user-base, open access, and ongoing development, the text will stay relevant to the profession and be widely used.

Joseph C. Walker, director of publications, American Society of Agricultural and Biological Engineers

In keeping with Virginia Tech's land grant mission, Virginia Tech Publishing believes in contributing the works it publishes to the public commons through open access publishing while ensuring long-term access through the Library's preservation strategy. Its goal is to be the center of scholarly publishing activities and expertise at Virginia Tech and to raise the profile of the university's scholarship through publishing, consulting, and education & outreach. ■



Podcast host Lee Vinsel, left, and Publishing Services New Media Manager Joe Forte, right.
Photo by Chase Parker.

8 PODCAST SERIES

121 EPISODES

11 PODCASTS IN DEVELOPMENT



➤ EXEMPLARY PODCAST

Peoples and Things

Founded 2021, it's in its second season

36 episodes to date

101 VIDEO PUBLICATIONS AND RECORDINGS



STUDENT PUBLICATIONS

6 BO-OKS | **5** JOURNALS | **3** ONLINE PROJECTS

> EXEMPLARY STUDENT BOOK

Welcome to the Beatles

18,218 downloads of the complete book directly from Virginia Tech Publishing and VTechWorks from visitors in 34 countries.

120 printed books sold on Amazon.



"The future of higher education is giving more ownership to our students. This project allowed the students to write, edit, and publish their own book 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."

Robert Stephens, associate professor of history

430 JOURNAL ARTICLES 

10 ACTIVE JOURNALS | **38** HOSTED/ARCHIVED JOURNALS

> EXEMPLARY JOURNALS

Journal of Veterans Studies

Founded in 2016; moved to Virginia Tech in July 2018
17 issues containing 254 articles published since 2016
13 issues published by Virginia Tech Publishing

Studies in Engineering Education (SEE)

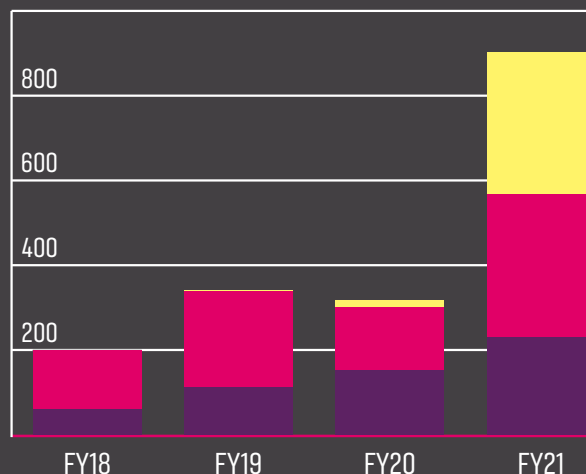
Founded in 2020
5 issues containing 35 articles published since 2020
Co-edited by Marie Paretti (Department of Engineering Education)



5 HOSTED DIGITAL HUMANITIES PROJECTS 

CONSULTATIONS

Faculty Students Community



CONSULTATION HIGHLIGHTS

SPECIAL SUPPORT FOR GRANT AND FOUNDATION FUNDING RECIPIENTS, ON PROJECTS INCLUDING:

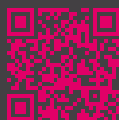
NATIONAL ENDOWMENT FOR THE HUMANITIES (NEH)

FUNDED PROJECTS:

- > *Viral Networks* (2017-18) resulting in 2019 book
- > *American Soldier in WWII* (2018) resulting in 2022 website
- > *Experiencing Civil War History Through Augmented Reality* (2021-), which will result in an augmented reality (AR) application for Pamplin Historical Park
- > *Crossing Divides: Connecting Veterans, Teachers, and Students through Oral History* (2022-23)

Henry Luce Foundation Religion and Theology Grant:
Future Humans, Human Futures (2021-24), in partnership with the Center for Humanities

ACLS (American Council of Learned Societies)
Grant: *Building an Institute for Empathic Immersive Narrative* (2022-23)



SEE IT ALL
lib.vt.edu/go/publishing

WHERE ARE THE BOOKS?

NEWMAN LIBRARY WAS once stuffed with books on every floor. Stacks of hardcover and paperback copies filled with a wide range of information stretched from wall-to-wall, leaving little room for study space or group gatherings.

The rapid advancement of technology in the early 21st century caused a shift in student needs and revolutionized the modern library.

“We started moving books out of Newman Library in the 2000s,” said Tyler Walters, dean of University Libraries. “The reason is because students were asking for rooms to study in and they needed space for groups to come together. When groups come together, they need technology and they need screens and computers. We needed room to provide those things.”

The removal of books from the first, second, and fourth floors of Newman Library freed up space for amenities and services such as a cafe, group study rooms, a technology lending desk, a virtual reality studio, and a prototyping studio.

“Our vision at University Libraries is to enhance teaching, learning, and research through data, information and knowledge,” said Walters. “As a library, we provide books and journals, but we also provide technologies for people to create and learn.”

Many of the physical books removed from Newman Library have a home in nearby storage facilities.

**850
THOUSAND
HOLDINGS**

fit onto shelves that are organized for maximum space efficiency. As many as 200 books, and as few as a single large map box, fit onto each shelf.

“We have about 850,000 unique volumes in our main warehouse building, and around 350,000 volumes in our second building,” said Christopher Peters, manager of the Library Service Center.

All of those books are easily accessible through the online public access catalog.

Every day, a crew member from the Library Service Center conducts a courier run that transports books from the off-campus storage facilities to the different branches of University Libraries, typically delivering materials the day after the order was received.



"You can go online and check them out," said Walters. "You just have to select whether you want the book brought to the circulation desk, where you can walk over and get it from there, or you can have it sent to your academic department as well, which is really convenient."

With the utilization of off-campus storage, the University Libraries is able to stay committed to providing information through physical books, while also offering a space that encourages students and faculty to gather and learn using the latest technology and tools.

**1000s
OF VINYL**

LPs, including high quality master recordings of the Beatles, are among the unique items stored at the Service Center.

**30
FEET**

to reach the top of the 160-foot-long stacks (*the width of a football field*).

**Since the
1970s**

the Library has been storing items off site at various locations.

"Times are changing," Peters explained. "A lot of this material is accessible in other methods, and we must use our space in a responsible manner. I'm just very happy to see that the university has provided funding for off-site storage so we can maintain a lot of our traditional paper collection."

The University Libraries will continue to evolve as the technology that fuels modern-day education advances.

"The vision for the future is to keep on this path that we're on," added Walters, "providing technologies and online information as much as we possibly can, and to be partners with faculty and students on campus." ■



WATCH THE VIDEO

lib.vt.edu/go/booksvideo

Changing the narrative

Collaboration preserves Appalachian African American storytelling and history

By Ann Brown



THE CHRISTIANSBURG INSTITUTE now has the power to tell its rich, century-long story through its self-managed Christiansburg Institute Digital Archive thanks to a \$251,052 Digitizing Hidden Collections: Amplifying Unheard Voices grant from the Council on Library Information Resources. University Libraries at Virginia Tech is collaborating with the institute on its grant-funded project, “Changing the Narrative: Modeling Equitable Stewardship of African American Storytelling and History,” to digitize stories, photos, and documents of Christiansburg Industrial Institute — the first high school in Southwest Virginia to educate the formerly enslaved (1866-1966).

The grant funds will support digitization of 38.65 linear feet of Christiansburg Institute Museum and Archives’ collections, including technology and two new institute staff positions to digitize and process materials on site at the Christiansburg Institute.

University Libraries has access to specific experience, funding, technologies, and bandwidth to create additional avenues of discovery for the collections. The materials will be freely available to anyone with an internet connection through the Christiansburg Institute Digital Archive and the University Libraries’ Southwest Virginia Digital Archive.

“Christiansburg Institute’s rich 100-year history of African American education and empowerment represents a succinct cultural tradition of learning and innovations expressed in rural Appalachian communities throughout the 19th and 20th centuries,” said Chris Sanchez, executive director of the Christiansburg Institute Inc. “This story is important because it is emblematic of the racial repression and injustices experienced by generations of African Americans, who nonetheless built institutions and communities that thrived and who called Americans of all races to a higher moral standard.”

The unheard stories gleaned from 870 photographs, 60 slides, 15 diplomas, 48,000 typed pages, and 3,300 handwritten pages from the school’s principals, teachers, and students are invaluable in spotlighting the Black Appalachian experience throughout the ages.

“These voices speak and bear witness to the ancestral traditions, intergenerational genius, and immense creativity manifested at Christiansburg Institute — building a mecca of African American education, culture, and life for centuries,” said Sanchez.

This work will highlight precious family connections between institute alumni and their descendants.

“This history has been largely inaccessible for the past 50 years,” said Christiansburg Institute (C.I.) Archivist Jenny Nehrt. “Digitizing Christiansburg Institute’s archives is also important because many of the African Americans who either attended C.I. or had family members attend C.I.

Left: Christiansburg Institute students and faculty pose beside the Edgar A. Long Building. Photo courtesy of Christiansburg Institute Museum and Archives.



do not live in the New River Valley anymore. I hope the Christiansburg Institute Digital Archive will reunite families with their material history, regardless of their distance.”

This project exemplifies a newer model of collaboration between a large academic institution and a grassroots community organization.

“We mindfully built a grant proposal that prioritized the autonomy of C.I. to tell its story and preserve its material history while also furthering the work of the University Libraries’ Southwest Virginia Digital Archive,” said Nehrt.

Sanchez said this community-based partnership allows subject-area experts within the community to be more involved in preserving, organizing, and presenting past experiences without risk of misinterpretations or miscategorizations.

“Christiansburg Institute partnering with the University Libraries represents a much-needed model of equitable collaboration between university institutions and grassroots non-governmental organizations that engages historical research, analysis and interpretation, and preservation from a community-based perspective and grassroots methodology,” said Sanchez.

University Libraries’ Digital Preservation Coordinator Alex Kinnaman said this project fits into Virginia Tech’s land-grant mission. “We have an obligation to support our community in any way we can, including supporting local community collections through our funding and expertise without removing autonomy and ownership from

the original owners,” said Kinnaman. “Cultural heritage organizations like Christiansburg Institute maintain incredibly valuable and historically significant resources that need to be accessible and discoverable to a wider audience, and the University Libraries has the expertise and resources to support that goal.”

 **870 photographs**

 **60 slides**

 **15 diplomas**

 **48,000 typed pages**

 **3,300 handwritten pages**

Kinnaman said she hopes this collaboration is the first of many community partnerships. “I hope that this project encourages partnerships with other cultural heritage organizations in a way that is mindful of past experiences, meets their needs and expectations, and enriches the University Libraries’ collections to be more diverse and representative of the region in which we live and work.” ■



Historic Costume Descriptors

Bridge Gap Between Past and Present

By Elise Monsour Puckett

THE BOLDEST DECADE in fashion history was arguably the 1980s. Iconic parachute pants, shoulder pads, windbreakers, acid wash jeans, dramatic earrings, spandex leggings — all full of bright, eye-straining colors and patterns. As times change, so do clothes and the words we use to describe them.

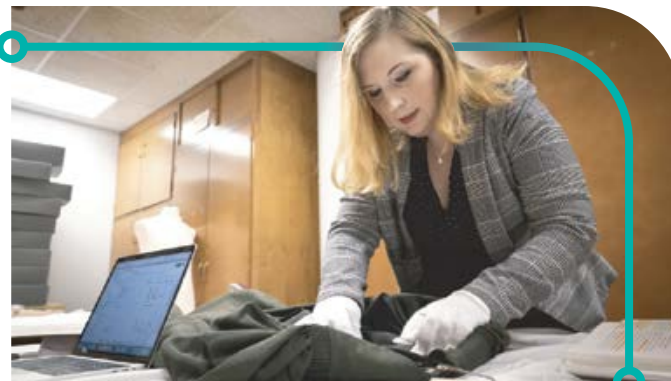
Virginia Tech fashion experts and computer scientists have teamed up to create a common language to describe clothing items in the university's Oris Glisson Historic Costume and Textile Collection thanks to the University Libraries Collaborative Research Grant for Humanities and Social Sciences.

The objective is to compare language from the past with new language that we use today to describe costume artifacts across different time periods. The Oris Glisson Historic Costume and Textile Collection will be digitized and made available to the public, increasing access. There are over 5,000 artifacts in the collection, making this a long-term project. The team has described and digitized approximately 200 items so far.

The collection consists of men's, women's, and children's garments of all types, including evening wear, nightgowns, undergarments, and a rare 1840s wedding dress. There are accessories such as jewelry, glasses, scarves, and unique hats. Additionally, the team has created a "world closet" that contains items such as kimonos, Chinese skirts, and Korean handbags. The collection's oldest artifact is a Peruvian burial garment fragment from 1180, although most of the garments date between 1840 and 2010.

So just how does the team go about creating the common language?

Dina Smith-Glaviana, director of the Oris Glisson Historic Costume and Textile Collection, and her students examine them, identify other terms that might be more general, and pull language from the International Council of Museums terminology for costumes. Next, they create the



Dina Smith-Glaviana inspects an article of clothing to identify terms that can be converted into a common language across all time periods. Photo by Chase Parker for Virginia Tech.

new descriptions and build on existing standards to create a consistent way to catalog and code historic clothing.

During a typical shift, the students find the list of artifacts to digitize, pull one of those garments from the collection, lay it down carefully on tissue paper, and examine it from top to bottom. Then they research and choose the most relevant terms to describe it. Students also input missing information such as donor name and write a very thick description of the garment.

"I've trained my students to be meticulous and look through an encyclopedia of textiles to make sure they're identifying the right type of fabric or fabric structure," said Smith-Glaviana. "They also use the Fairchild's 'Dictionary of Fashion,' which has illustrations of things such as collars, sleeves, and skirt types. The pictures help them find the most relevant term, and it's a good system to use for people who are not familiar with all of the costume terminology."

The next step is to send the detailed descriptions on notecards to Chreston Miller, data and informatics consultant

at University Libraries, where he and his student team oversee the natural language processing, also known as machine learning.

“This project is pretty interesting,” said Miller. “I’m a computer scientist, so when I tell people I am working with fashion, they are like, what connection is that? The people in Fashion Merchandising and Design have data they want to work with.”

Miller said one reason to have a controlled vocabulary is the descriptions that come with an artifact were written in a certain time period, so they have certain phrases for different aspects of the artifacts.

University Libraries student employee Madhuvanti Muralikrishnan '23 is assisting Miller on the project while working on her master's degree in computer science and applications.

“In machine learning, we’re essentially trying to teach the computer to do something that humans do, and that’s pretty complex,” said Muralikrishnan. “We know what multicolored is, but how do you teach that to a program and the intricacies involved in that? That was surprising for me. I read about these things in class, and it’s very gratifying being able to apply what I learned and seeing the result of it.”

Muralikrishnan said she wants to work in machine learning and this project is directly related to her career goals. “I believe that computer science is domain agnostic. So today we’re doing this for fashion. Tomorrow, I can take the same algorithm and do it for medicine or something else. Each domain has its own problems and challenges and that’s been fascinating.”

So far, Miller has received more than 5,000 notecards with descriptions that need digitizing and organizing into a database so everything is accessible and searchable. The notecards start off on paper, then Miller performs optical character recognition on the notecards so the team can digitize the descriptions from the notecards, a crucial step for making the natural language processing possible.

The team also uses an online database to share information. “You think, ‘OK, color doesn’t seem too hard to describe,’” said Miller. “Well, how many different words of color can you use? Take blue for example. There’s navy blue, baby blue, royal blue, and so on. So

you have to think about how you have a control vocabulary for this.”

Terms are inconsistent over time. “I noticed in a lot of our old records that some of the terminology is not quite accurate or is very specific to the time period in which it was recorded,” said Smith-Glavina. “One thing that has stuck out to me in the collection is the term bloomers. Bloomers was actually a term used in the 1850s to describe the first form of female trousers worn by dress reformers and by bicyclists as a sports costume. But over time, it changed to be ruffly, fluffy balloon-like undergarments mainly for babies — the ruffly underwear that they wear over their diapers that people tend to describe as bloomers.”

Virginia Tech’s rare fashion artifacts are usually donated by people cleaning out the homes of their parents or grandparents, and they find trunks with many generations of old garments in them.

“Most of the time they won’t know what the items are and it’s up to us, the experts, to identify what the garments are,” said Smith-Glaviana. “We’ll ask the donors questions like, ‘Who do you think wore this?’ And that will help us figure out if it’s a female or male, older or younger person, or even a child because sometimes it’s hard to tell with historic clothing. We get a sense of the history from the donor but usually their knowledge is quite limited.”

Their ultimate goal is to digitize the historic costume collection and make it accessible to anyone interested in researching historic costumes.

“For example, most people know corsets as corsets,” said Smith-Glaviana. “But they don’t realize that throughout much of history corsets are actually referred to as ‘stays’ and they’re two different garments. So depending on the words they search, they may never find what they’re looking for.”

A collection that was once hidden is now beginning to be searchable by anyone online, falling in line with Virginia Tech’s goals of providing more access to information. Ultimately, the team members hope that their descriptor categorization will be widely adopted by other costume collections, creating a consistent terminology that everyone can use. “It’s a huge vision,” said Smith-Glaviana. ■

Bloomers




1850s



1950s



WATCH THE VIDEO
lib.vt.edu/go/costumevideo



STUDENTS GAIN EXPERIENCE IN SUSTAINABLE ARCHITECTURE

Thanks to the Keesees' passion for the environment

By Ann Brown

STUDENTS IN THE College of Architecture and Urban Studies are gaining hands-on experience in sustainable design thanks to the generosity of Susan '83 and Dave Keesee '83 and the Susan and David Keesee Endowment for Undergraduate Research within the University Libraries.

The endowment was established in 2018 by the Keesees to provide support for undergraduate research related to government policy and environmental sustainability — the first undergraduate research endowment in the University Libraries.

“Funds currently support education on sustainable architecture, including purchasing materials for workshops on sustainable design techniques,” said Sara Sweeney Bear, manager of the Fusion Studio in Newman Library. “The Fusion Studio hosts the Keesee grant. So those who receive the grant also receive membership in the studio. Some teams have a space of their own and don’t necessarily need the space here, but other teams do. And I also serve as a point person for helping them purchase materials using the grant.”

This year, the grant was used in part to purchase materials for three workshops involving wood, Rockite, and resin for undergraduate architecture students. Students are experimenting with these three materials for potential use in a collaborative,

sustainable design-build Habitat for Humanity project in Merrimac, Virginia.

“The project will potentially be located in an area where we would have to separate an existing cow pasture from the house, so we’re investigating wall ideas that could mediate those two spaces,” said Deidre Regan, visiting instructor in the School of Architecture + Design.

“ It gives students a chance to test out modeling with materials they may not otherwise try. We encourage experimentation and hands-on learning.

-Deidre Regan

Second year architecture and Honors College student Michael Cavicchio taught the workshop on Rockite, a fast-setting, hydraulic expansion cement. He has experience with the material and wanted to share his knowledge with classmates as a part of an Honors College project.

“It’s great to help my classmates out and help them learn new skills. It’s a big thing in



Architecture student Michael Cavicchio teaches a Rockite workshop supported by the Susan and David Keesee Endowment for Undergraduate Research. Photo by Chase Parker for Virginia Tech.

architecture,” said Cavicchio. “I learn things from my classmates all the time, and it’s great to give back to them.”

Cavicchio said he had never led a workshop before, but the experience he gained doing it will benefit his future.

“I’m gaining leadership skills as well as learning how to communicate in front of a large group in a formal setting,” said Cavicchio. “It is a good experience.”

Previous projects the grant helped support were the continuation of the TreeHAUS project, which began as a grand-award winning Department of Energy Solar Decathlon Design Competition entry, and a cork wall project that is now housed in the Creativity and Innovation Residence Hall on campus.

“The grant is open to individuals in any major, as well as interdisciplinary teams. It’s not just relegated to what you would normally think of as majors that would focus on environmental sustainability,” said Sweeney Bear. “In fact, the grant itself puts an emphasis on projects regarding environmental policy.”

The Susan and David Keesee Endowment for Undergraduate Research within the University Libraries lowers the barriers for undergraduate students to explore their interests in sustainability and environmental policy through projects and research. ■

In memory of Susan Hastings Keesee '83



Susan Keesee. Photo provided by Dave Keesee.

A force of nature who loved all things books and the outdoors, Susan Keesee '83 made a difference for the people she loved and the causes she cared about. She passed away Tuesday, Nov. 1, 2022, at her home in Chapel Hill, N.C. after a short but valiant struggle with pancreatic cancer.

Susan met her husband Dave Keesee '83 while they both were students at Virginia Tech, and the couple just recently celebrated their 40th wedding anniversary. After graduating from Virginia Tech with a bachelor of science degree in clothing and textile science, Susan earned her master of science degree in textile science from Clemson University. After years in the textile industry, she decided on a career change and earned her master of science degree in library science from the University of North Carolina to become a medical librarian.

Susan was an inaugural member of the University Libraries at Virginia Tech Dean’s Advisory Council, where she learned about the library’s mission, activities, and goals and offered invaluable advice and insight to its leadership.

Susan loved to hike, camp, celebrate, and protect nature. She and Dave created the first undergraduate research endowment in the University Libraries, which helps students from across the university with projects and research centered around environmental conservation.

Susan leaves behind her beloved husband Dave, her two dogs Barley and Mercy, a sister, nieces, nephews, grandnieces, grandnephews, and many friends.

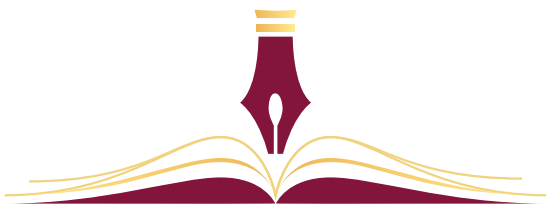
If you would like to make a contribution in Susan’s honor to the Susan and David Keesee Endowment for Undergraduate Research scan the QR code below. ■



GIVE TO THE ENDOWMENT
lib.vt.edu/go/keesee

Virginia Tech Authors

honored by University Libraries
during recognition event



VIRGINIA TECH and University Libraries recently honored more than 200 authors who wrote 250 books in the three years since the last Virginia Tech Authors Recognition Event was held in Newman Library.

“We have been doing this since spring 2006, and the last time we did this was March 2019. We scheduled the event for March 2020 late in the month. We had to cancel, and we all know why,” University Libraries Dean Tyler Walters said during his welcome remarks at the event. “It’s been three years, so we’ve got a lot of books and a lot of authors to celebrate tonight.”

Since 2006, the recognition event has grown and changed. In 2010, the name changed from the Virginia Tech Faculty Authors Recognition Event to the Virginia Tech Authors Recognition Event to also incorporate books and related materials from staff and student published authors. In 2010, the University Libraries included film and music because they too are critical publications for many disciplines at Virginia Tech. The event also honors those who publish in open access journals with the help of the University Libraries Open Access Subvention Fund.



Group photo of honored authors. Photo by Chase Parker.

“The diversity of topics is really important,” said Walters. “It shows off Virginia Tech’s role in the world. Obviously, we are historically known for agriculture and engineering. But topics are wide ranging. There are books about hip hop, children’s books, history books, and books about human computer interactions — it runs the gamut. It shows how comprehensive Virginia Tech really is and the wide variety of places it can make an impact and help people.”

During the months prior to the event, the University Libraries purchased books authored by Virginia Tech faculty, staff, and students since the 2019 recognition reception. A large display of books, musical scores, and other ancillary items offered attendees a chance to enjoy the wide breadth of scholarship being celebrated. This year, the University Libraries created a form for authors

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I wouldn’t have had the opportunity to engage and enjoy that diversity of topics had it not been for the diversity of scholarship represented in these books here.

Cyril Clarke

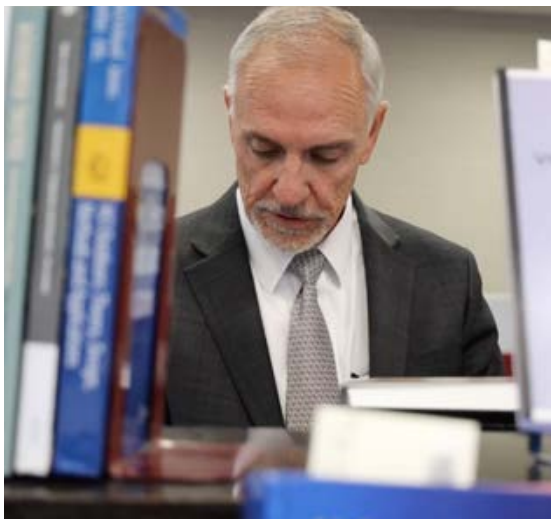
to submit their titles if they did not see their publication already listed on the event’s libguide informational site. The 2023 submission form is available for authors to submit recently published or soon-to-be-published books for recognition during the next celebration.

Provost Cyril Clarke took time during the celebration to peruse the books on display and remark on the diversity of topics and its importance.

“I wouldn’t have had the opportunity to engage and enjoy the diversity of topics had it not been for the diversity of scholarship represented in these books here,” he said. “Thank you to the library for what you do in enabling and facilitating scholarship, and thank you and congratulations to the many authors and all that you’ve accomplished that is presented today, but no less represents the work of several years. Well done.” ■



WATCH THE VIDEO
lib.vt.edu/go/authorsvideo



Left, Cyril Clarke exploring honored books. Right, guests enjoying gourmet food. Photos by Chase Parker.

"Lost in Transition"

stories of family
heartache and turmoil to
make way for public parks

By Elise Monsour Puckett

IMAGINE BEING TOLD the government needed your land and you had a few weeks or months to gather your belongings and move. Your home, the only home you've ever known, was going to be demolished, and you weren't sure if you would be given enough compensation to start over somewhere else. It's for the greater good, they said.

What about your family? Where are you going to go?

Aaron D. Purcell, director of Special Collections and University Archives, wanted to explore this history and share the untold stories of 20th century Appalachian families who faced this situation. He describes these stories in his newly edited book, "Lost in Transition," published by the University of Tennessee Press. The book explains why people are so connected to their Appalachian roots, the importance of memory and oral history in retelling the stories, and what was lost or gained because of the removals.

People in rural communities of Appalachia experienced this turmoil and heartache in the 20th century when uprooted by the federal government to make way for multi-use public spaces such as national parks and recreation areas. In Purcell's book, he describes seven case studies of public land acquisition and removal of families and communities in Virginia, Kentucky, the Carolinas, and Tennessee from the 1930s through the 1960s.

Each essay in the book asks key questions: How did governmental entities throughout the 20th century deal with land acquisition and removal of families and communities? What do the oral histories of the families and communities, particularly from different generations, tell us about the legacies of these removals?

Purcell reveals confrontations between past and present and federal agencies and citizens. He also brings to light the original accounts of removal and resettlement of these families as well as contemporary interpretations.

"The result is a blending of practical historical concerns with contemporary nostalgia and romanticism, which often deepen the complexity of Appalachian cultural life," said Purcell.

In the mid-1990s, Purcell began research into the history of the TVA. This project gained momentum over the past five years after hearing Katrina Powell, professor of rhetoric and writing in the Department of English and founding director of the Center for Refugee Migrant and Displacement Studies, speak at a faculty author's event on removals in Shenandoah.

After her talk, Purcell and Powell discussed Powell's research and the many similarities to the TVA projects and removals that Purcell studied. A few years later, both were appointed to the Council on Virginia Tech History, where Purcell mentioned to Powell that they should write a book together. Powell was intrigued and agreed to write a chapter in the book and also recruited graduate student Savannah Paige Murray to write about a proposed project along the New River that would have displaced a number of rural communities. "It was a great collaboration," said Purcell.

"Dr. Purcell's new book is really important in highlighting the ways that movement, mobility, displacement, and resettlement remain critical issues in Appalachia," said Powell. "Our chapter in the book highlights the intersecting and overlapping issues in eminent domain law and highlights the variety of ways that communities respond to displacement. We're very excited to be included in this important collection, and we appreciate Dr. Purcell's commitment to bring together interdisciplinary approaches to understanding Appalachia."

In addition to working with Powell, Purcell also was able to secure experts on the removals to tell a larger story about displacement and loss, which sets his book apart from others. Purcell's work at the University Libraries also influenced this project

as the history of the Appalachian South is one of the core collecting areas of University Libraries' Special Collections and University Archives housed in Newman Library.

"My early research on this project proved that existing information on the region's 20th century history was lacking, especially from the perspective of those people removed in Appalachia and what was lost in the process," said Purcell.

Displacement and community formation are key topics in Appalachian history. "I've met descendants from families who were removed by projects described in the book," said Purcell. "Even though the removals happened before they were born, the narrative of displacement and cultural loss is often very raw and personal for them. Often, descendants of the displaced celebrate a past that they never knew and sometimes a past that never was."

Removed families were not always upset about leaving their homes. "Life in many of the removal zones was difficult," said Purcell, "and in fact a lot of families were happy to leave because they realized that moving created more opportunities for the following generations."

One of the book chapters touches on the history of Loyston, a vanished town in the Norris Dam basin that is now under water. Purcell spent many hours looking at several hundred case files created by TVA in the 1930s. "Our society often has a romantic view of the past, but the removal stories that I have read make it clear that our ancestors had tough choices to make and lived through ridiculously difficult times. I'm still grappling with how families facing removal were able to accept

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 The result is a blending of practical historical concerns with contemporary nostalgia and romanticism, which often deepen the complexity of Appalachian cultural life.

Aaron Purcell

and recover from the loss of their land and homes. Many reached the conclusion that relocating was better for them and contributed to the greater good while others were less enthusiastic about leaving."

Although there are monographs about most of the projects mentioned in the book, very few of them look at the theme of loss and change from the perspective of those displaced. "Looking at the selected projects side-by-side is a different approach that reveals plenty of similarities and contradictions in the removal stories," said Purcell. "Plus, the outcomes of the removals, such as national parks, have defined our modern thinking about Appalachia." ■

Members of the Stooksberry family lived near Loyston, Tennessee, on their Civil War-era 350-acre homestead. They were relocated and their property was submerged during the creation of Norris Lake. Photo courtesy of the National Archives.



VIRTUAL EXHIBIT BECOMES EDUCATIONAL TOOL FOR LOCAL SCHOOLS

By
Chase
Parker

THE VAUQUOIS EXPERIENCE EXHIBIT,

specifically designed for the 2019 ACCelerate Festival at the Smithsonian National Museum of American History, is finding a new purpose.

Todd Ogle, the executive director of Applied Research in Immersive Experiences and Simulations in the University Libraries and the leader of the development of the Vauquois exhibit, is re-examining how the exhibit can be used to educate local middle and high school students about World War I.

Through virtual reality and 3D-printed components, the exhibit creates an immersive experience that places users right in the middle of the underground tunnels built in Vauquois, France, during World War I.

The Vauquois tunnels were constructed between 1914 and 1918 as French and German armies battled for control over a strategic hill that offered a view of a critical supply route. Traditional above-ground warfare made no progress, so both sides went beneath the surface for an advantage, digging elaborate and sophisticated tunnels with the goal of destroying their enemy with underground explosives.

“The plan of engaging with students was always one of our goals,” Ogle said of the exhibit. “And so we’re always working on how we can take these tools and experiences and make them something



that can actually be applied in a curriculum by teachers at varying levels.”

Blacksburg High School teacher Jeffrey Pedersen embraced the Vauquois Experience Exhibit as a powerful teaching and learning tool. Pederson teaches history to sophomores and has brought multiple groups of students to Newman Library to experience the immersive exhibit first-hand. He said having access to this resource at Virginia Tech deepens his students’ interest in World War I.

“Being hands-on, being outside of the classroom, doing something that’s not traditional draws them in because this is not what they’re used to on a day-to-day basis. It allows them to deepen their understanding beyond what I have to teach them for a curriculum and beyond what they have to know for a test,” said Pedersen.

The use of virtual reality offers Pedersen’s high-schoolers a relatable, yet unique, educational experience as it utilizes the same type of technology that many students already use.

“When we think of virtual reality, a lot of us think of video games.

When we look at videos that have been created in the Unreal Engine, a lot of us think of games and finding a way to leverage that to make a connection to students is another amazing possibility,” said Pedersen. “I can’t do it on my own, so having these connections [with Virginia Tech] and being able to find a way to utilize those things to help students learn is fantastic.”

Ogle remains ambitious with the Vauquois Experience Exhibit. In addition to the online virtual-reality experience already in use, his goal is to use the physical/virtual exhibit as a catalyst to work with local schools and offer his technological tools and expertise as a resource for students.

“We want to continue working with our partners here in the local schools on how we can really fine-tune the experience itself so it can be folded into their curriculum and the way they teach World War I,” Ogle said. ■

Vauquois exhibit walls photographed by Jack Micallef '24.
Virtual reality headset photographed by Chase Parker.



“Being hands-on, being outside of the classroom, doing something that’s not traditional draws them in because this is not what they’re used to on a day-to-day basis.”

Jeffrey Pederson

HAYLEY STOUT

Designing success through hands-on learning

By Ann Brown

HAYLEY STOUT has taken art classes for as long as she can remember. When she began looking at colleges to attend, her high school art teacher handed her a list of art-related disciplines that could connect to her love for creativity. She was intrigued by industrial design and its combination of art and functionality.

“I applied to all of the best industrial design programs I could find,” said Stout. “Virginia Tech was on this list, and as soon as I visited campus and my department, I knew this was where I wanted to be.”

Alongside her faculty mentors in the School of Architecture + Design industrial design program at Virginia Tech, she learned the importance of research, creative design, and testing in the design process. She then applied those lessons to real-world experiences as a student employee on campus.

During her sophomore year, she landed a graphic design role on the Virginia Tech Engineers’ Forum magazine and eventually became the magazine’s webmaster. Then in spring 2021, Stout joined the University Libraries’ strategic communications team as a graphic design assistant.

“When the graphic design assistant position opened up at the University Libraries, I knew I wanted that position right away as this would be an opportunity to learn and grow as a designer,” said Stout. “I also liked the idea of supporting the school in some way and experiencing what it is like to design for an institution.”

Trevor Finney, University Libraries’ creative services coordinator and Stout’s supervisor,

said he was impressed with her extraordinary professionalism, eagerness, and diligence. After training students on the library’s strategic communications team’s goals, tools, and styles, Finney expects student employees to work independently on assignments.

“She makes it easy to trust that not only will the work get done, but she’ll push some of her own boundaries, explore new ideas, and have a good time too,” said Finney.



Photo by Chase Parker.

In fall 2021 while working in the University Libraries, Stout signed up to convert her position to a paid internship as a part of the Campus internEXP program. This program makes experiential learning more deliberate with documented learning goals and outcomes.

“The combined rigors and discipline of the industrial design program with the creative work at the University Libraries prepared me for the dynamic field of UI/UX.”

Hayley Stout

“This pilot program offered a fabulous opportunity for both of us to strategically and collaboratively approach the experience-based learning that can be so valuable in a job,” said Finney. “Working on the family of skills that make up brainstorming was a goal she set for herself in the fall 2021 semester as part of the program.”

She worked on those skills by designing pages in the University Libraries IMAGINE Magazine. Finney challenged Stout to go back to basics in the ideation process for her designs.

“I think her biggest leap forward came while working on a spread in the fall 2021 magazine. She was working on a story about architect Leonard Currie and had several digital concepts that were variations on a theme,” said Finney. “I really pushed her to do something totally different and see where it took her. In the end, she got rid of the computer all together — no design programs, just paper, pencil, a pair of scissors, and props from around the office. I think it was a unique challenge, but she ended up designing one of the most engaging spreads I’ve seen.”

“She also used the no-computer approach in her ideation work for the spring 2022 edition and really wowed us,” said Finney. “Several of the layouts and concepts she pitched influenced the magazine.”

Stout said the design spreads for IMAGINE Magazine were her favorite projects.

“In addition to helping design existing spreads, I was given opportunities to create designs of my own,” said Stout. “These were great occasions for me to implement many different design styles and become more confident in who I am as a designer.”

As Stout gets ready to graduate, she looks back on all of her experiences at Virginia Tech and people who helped her along the way. “As a whole, my best memories that I will have of Virginia Tech would be the times I spent with the people I got to know while I was here,” said Stout, “my close friends, my studio classmates, and my coworkers at the University Libraries.”

She is looking forward to a professional design career, beginning at her alma mater. Upon graduation, she will serve as a user interface and user experience designer (UI/UX) and visual designer to help create improved systems for the university’s senior management areas including the offices of the President, Senior Vice President and Chief Business Officer, and Executive Vice President and Provost.

“In our industrial design program, we are trained to follow a design methodology outlining the necessary steps for research, design, and testing,” said Stout. “I also had the exciting opportunity to be on the design team for the University Libraries at Virginia Tech, where the goal is to design creative, compelling ideas and visuals that compliment the brand guidelines. The combined rigors and discipline of the industrial design program with the creative work at the University Libraries prepared me for the dynamic field of UI/UX.” ■



EXPANSION OF

VIRTUAL ENVIRONMENTS STUDIO

gives all students and faculty more opportunity to explore

360 CAMERAS

VOLUMETRIC CAPTURE

16 CAMERA OPTITRACK

ENTERPRISE XR HEADSET

By Ann Brown



THE VIRTUAL ENVIRONMENTS STUDIO in Newman Library began as a single room and introductory space for patrons to experience first-hand this emerging technology. Now, the studio features three rooms including a computer lab with machines that patrons can use that are powerful and contain high-end software for immersive environments research and development. In the studio's advanced research space, the community can access 360 cameras, PC connected and standalone headsets, and devices such as motion capture and volumetric capture systems. The space also houses the applied research in immersive experiences and simulations (ARIES) program, which gives students the opportunity for paid work on collaborative immersive environment projects with external partners.

Most recent upgrades to the space include a 16 camera Optitrack motion capture system to enable multiple actor capture and a 10 camera volumetric capture system, which will allow for real-time streaming of a 3D environment.

"Volumetric capture is a fairly cutting-edge technology right now, so by offering it to students we hope to get them experience with technology that will make them very desirable on the job market," said Jonathan Bradley, assistant director of learning environments and innovative technologies. "We also hope that faculty can benefit from access to technology that allows



them to do new innovative research without building and maintaining a complicated and costly system themselves."

The space also offers a Varjo XR-3 headset, one of the most advanced XR headsets on the market, which allows for more advanced eye-tracking and augmented reality pass-through than exists on current consumer-grade headsets.

"The Varjo XR-3 is an enterprise headset with many advanced features that you cannot find on consumer-grade headsets, and its presence in the studio not only gives students and faculty a chance to perform research that might not be possible with other headsets, but also gives our students direct experience with a headset that is often used by large enterprises in technology fields."

Because the University Libraries offers emerging technologies to all patrons, this studio gives students and faculty an opportunity to explore the systems with library experts and push its limits in research and discovery. ■



WATCH THE VIDEO
lib.vt.edu/go/vesvideo

Student employee Atlas Vernier demonstrates the new technology. Photos by Chase Parker.

IDENTIFIED FLYING OBJECTS TO SOAR THROUGH FACTORY AIRSPACE

By Elise Monsour Puckett

THE SKY'S THE LIMIT for a team of recent Virginia Tech engineering graduates who took drones to the next level. Christopher Graveline '22 and his dynamic team of 10 classmates from four engineering majors in the Interdisciplinary Senior Design Program built a system of autonomous drones to perform indoor package delivery.

Sponsored by Lockheed Martin, these unmanned aerial vehicles will utilize free airspace in factories with crowded floors to more efficiently deliver parts across these large indoor facilities.

Never before done, "these drones are at the cutting edge of research and development," said Graveline.

Throughout the project, the team took advantage of resources available at the University Libraries, specifically the Prototyping and Fusion studios that nurture creativity. "When our drones break, the Prototyping Studio has all the tools we need, such as soldering irons and hand tools, to perform quick repairs," said Graveline.



Max Ofsa, Prototyping Studio manager, guided the team as needed throughout the project. "Max just so happened to have completed a drone project during his undergrad, and he has been a fountain of knowledge as well as kindly letting us borrow RC transmitters and batteries for testing," said Graveline.

The University Libraries' Fusion Studio was also a game-changer for the team, providing a centralized place for the students to meet and collaborate. "You can find us there pretty much every day of the week," said Graveline.

The team valued the expertise of Sara Sweeney Bear, Fusion Studio manager. "Sara is a great communicator and comes from a non-engineering background, so her perspective is crucial when running through our presentations with her.

"The library staff have been great mentors throughout the whole process," said Graveline.



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This product has the potential to create a new market for indoor drone delivery systems that doesn't yet exist.

Christopher Graveline

Because the project pushed the boundaries of the technology readiness level, team members relied on engineering calculations, simulation, and good old trial and error to navigate many of the challenges they faced throughout the year. “If we listed all the challenges we encountered throughout this project, this article would be far too long for anyone to read,” said Graveline.

One surprise the team discovered was the level of vibration created by the drones during takeoff. “It made it more difficult than expected to pick up the boxes, which delayed our project,” said Graveline. “Bigger propellers were able to fix that issue.”

Additionally, flying indoors came with its own set of challenges. Team members solved these problems with a one-of-a-kind magnetic pickup and dropoff mechanism that they were told could not

be done. “This is something that we are particularly proud of, and we proved our class professors wrong when they worked successfully,” said Graveline.

Graveline said the team has loved being a part of the Interdisciplinary Senior Design Program and recommends it for any rising senior in the College of Engineering to consider this senior design alternative. “We learned so much and really benefited from the interactions with Professors Andrea L’Afflitto, Robin Queen, and David Gray along with the excellent library expertise, guidance, tools, and resources,” said Graveline.

It has been exhilarating to work on a project that is on the cutting edge of the industry, said Graveline. “Much of what we’re trying to do is not currently available on the market and developing a totally new product has been an incredible experience.”

“This product has the potential to create a new market for indoor drone delivery systems that doesn't yet exist,” said Graveline. “We’re reaching new heights.” ■

In memoriam

Mary Lucado



By Ann Brown

MARY LUCADO, interlibrary loan borrowing supervisor for the University Libraries, passed away on Wednesday, May 4.

She joined the University Libraries in June 1990 in the media center and moved into positions in circulation. Her last 15 years with the library were in interlibrary loan, a team in the collections and technical services department. While serving the library, she earned her bachelor's degree in history from Virginia Tech.

Lucado was well known for her kindness and willingness to go above and beyond to acquire research materials for the university community. She always had a smile on her face, ready and eager to take on the day. According to her colleagues, her attention to detail and problem-solving skills exemplified the pride she took in providing high-quality service to faculty and students.

She was instrumental in implementing a vast expansion of additional interlibrary loan (ILL) services to provide research material and resources for Virginia Tech faculty, staff, and students. Lucado routinely compiled critical statistical data analysis reports for her department and strove to display the information in a format that provided a clearer vision of data she collected.

"Among many of her attributes, she represented an outstanding team approach in her effort to accomplish not only her personal goals, but the

ILL unit's goals and new initiatives," said Sharon Gotkiewicz, unit supervisor for interlibrary loan. "She always wanted to make everyone's life better, willing to help in any way she could."

Lucado loved to learn and taught herself many of the skills she needed to succeed in her job. She pursued opportunities to increase her knowledge, gather ideas, and develop skills by attending conferences, webinars, and training sessions to further contribute to her team and the library.

Gotkiewicz fondly remembers Lucado's fun sense of humor and her love of Christmas.

"Mary loved Christmas, and she would start her Christmas endeavors beginning in July by sending her co-workers the Christmas countdown clock and some Christmas music to go with it," said Gotkiewicz. "Mary got a kick out of this, and we all knew it was coming every July and didn't end until Christmas."

Lucado also had many interests and hobbies such as researching genealogy, going to auctions, crafting, cross-stitching, collecting stamps, working in her flower gardens, and caring for her two cats.

"She loved life, her family, friends, and co-workers," said Gotkiewicz. **"Mary will be greatly missed."** ■



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Second floor of Newman Library after construction in 1953.
Photo courtesy of Special Collections and University Archives.



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