FALL/WINTER 2023

IMAGINE
University Libraries at Virginia Tech

Virtual Astronauts
Empowering Creativity
Dear friends of University Libraries,

As the fall semester ends and the New Year approaches, it’s time to reflect on our successful year at University Libraries. In this edition of Imagine magazine, you will see examples of library achievements that helped Virginia Tech in its global land-grant mission.

Our success is a result of efforts by library employees who imagine and accomplish creative solutions to share Virginia Tech’s research and expertise with the world, assist in Virginia Tech faculty and student success, and support projects that make a difference in our communities.

Friends and supporters of University Libraries are partners in this success. Private dollars help fund student employee positions, purchase supplies for our maker studios, help preserve the past for future scholarship and research, and support the creation and publication of freely available textbooks and other learning resources.

Thank you for being a friend of the University Libraries.

I wish you and yours the best this holiday season. Cheers to the New Year and another successful year in the University Libraries at Virginia Tech!

All the best,

[Signature]

Tyler Walters, Ph.D.
Dean, University Libraries
Virginia Tech
Interdisciplinary Team Receives Continued Support to Visualize the Past

By Elise Monsour Puckett

THE NATIONAL ENDOWMENT FOR THE HUMANITIES AWARDED a $98,500 grant to an interdisciplinary team led by Virginia Tech to create an augmented reality program prototype that brings Civil War history to park visitors’ fingertips. Experts from Virginia Tech, Virginia Commonwealth University, Pamplin Historical Park, and its National Museum of the Civil War Soldier in Petersburg, Virginia, are involved in the project.

From multimedia-guided interpretations of documents to videos of historians sharing diverse perspectives, Pamplin Historical Park visitors will interact with historical lessons and stories of the site to inspire deeper empathy, curiosity, and understanding. Through augmented reality (AR), they’ll engage with stories of the people — both soldiers and noncombatants, such as the enslaved people of the area - their roles, their environment, the fight, the grit, and their beloved families.

“Tapping into the immersive experience will allow people to see the Civil War in a different way,” said Todd Ogle, executive director of Applied Research in Immersive Experiences and Simulations. “I believe that using AR for this purpose is among its greatest potential uses.”

Previously, the team received a $30,000 grant to begin mapping out the project and analyzing what could be done. The new 2023-25 $98,500 grant is to continue the development and create an actual prototype of the augmented reality application. Next, the team plans to apply for another grant to move the project into full production.

The team is led by Paul Quigley, an associate professor in the Virginia Tech Department of History and director of the Virginia Center for Civil War Studies. Virginia Tech collaborators include Todd Ogle, executive director of Applied Research in Immersive Experiences and Simulations at the University Libraries; Doug Bowman, the Frank J. Maher Professor of Computer Science; Zach Duer, assistant professor in the School of Visual Arts; Corinne Guimont, digital scholarship coordinator in University Libraries; David Hicks, professor in the School of Education; Kurt Luther, associate professor in the Department of Computer Science and the Department of History; and Thomas Tucker, associate professor in the School of Visual Arts.

Other collaborators include Kathryn Shively, an associate professor of history at Virginia Commonwealth University, and staff of the Pamplin Historical Park and the National Museum of the Civil War Soldier.

The team will use digital recreations of historical landscapes, interactive 3D artifacts, short expert videos sharing compelling stories and key concepts, and digitally annotated historical documents and photographs.

“These techniques will convey historical lessons in bite-sized segments, grounded in compelling human stories, artifacts, or environmental features, using technologies that will draw different kinds of users in,” said Quigley.

The project marries new technologies with the latest historical scholarship on themes such as the environmental history of the Civil War, African American experiences of slavery and freedom, and how the crisis of the Civil War transformed gender relations and definitions of the household.

“Finding the right mix of accessibility, historical accuracy, and production value while working with the constantly changing technology landscape is an ongoing challenge,” said Ogle. “The opportunity is great enough to make the effort worthwhile.”

Quigley said there are immense benefits to understanding Civil War era history in all its dimensions, such as learning about how African Americans secured freedom and the impact the war had on individual lives, American politics and culture, and the natural environment. “It’s wonderful to be able to use engaging techniques to teach these subjects to audiences of different ages, different levels of interests, and different cultural backgrounds. There’s something magical about developing a cool AR experience - a real ‘wow’ factor.”

One interesting challenge the team has faced is the difficulty of keeping up with changing technologies, with which different users have different levels of comfort. “If we do go all the way through to the production phase grant, we’ll probably finish the project around 2028,” said Quigley. “Along the way, we have to try to design an experience that will work with the devices that are in use in 2028 and beyond. Will that be smartphones, tablets, AR glasses, or something else? And we also have to make sure that everyone from school field trips to a history buff at retirement age will be able to get the most out of the experience.”

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We hope that augmented reality will unlock the stories of these lived experiences while connecting them to the landscape within which they occurred.

Todd Ogle
By Elise Monsour Puckett

EMBARK ON A NEW JOURNEY EVERY WEEK to examine rare archives held deep in the library, enriching your knowledge of the past. "Archival Adventures" is a two-hour, weekly, live-streamed exploration of rare archival materials in University Libraries’ Special Collections that tell a story about the history of Virginia Tech, the community, and the world.

Led by Community Collections Archivist Anthony Wright de Hernandez, the show airs on University Libraries’ Twitch channel at 2:30 p.m. Wednesdays year-round. It features a viewer chat with Wright de Hernandez in real-time during the live show. "It’s an adventure into the past through the documents that have survived," said Wright de Hernandez. "And it’s fun, interesting, free, and educational along the way."

Demythifying archives

Each week, Wright de Hernandez features a new box of materials and discovers what’s inside alongside viewers. During the show, they journey back in time, digging into the box to see what rare items will be found inside—a treasure hunt.

"Sometimes, I know about a topic and share my knowledge with the viewers," said Wright de Hernandez. "Sometimes, a viewer is an expert on a subject, like aerospace and nuclear engineering, and can provide useful information as we explore. And sometimes, we are all learning together and have to go to the internet to find out more about what we’re looking at."

How it all began

Wright de Hernandez came up with the idea for the show in October 2020 while watching a middle school librarian talk about the Dewey Decimal System on a Twitch stream. About that time, October 2020, the university libraries’ studios launched a Twitch channel, and Wright de Hernandez participated in planning the first tabletop Dewey Decimal System on a Twitch stream. About that time, about the Dewey Decimal System, they would probably also show up to the viewers, "said Wright de Hernandez. "And it’s fun, interesting, free, and educational along the way."

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Fate, whimsy, and a dash of planning

There’s no formal process for selecting upcoming episodes, which may come as a surprise to viewers. "Chance, whimsy, fate, panic, and a dash of planning are how I select what’s next," said Wright de Hernandez. "I try to include material gleaned from our collecting areas and keep an eye toward highlighting historically marginalized groups. Often, I will look at the date of the show and see if I can align with a nearby holiday, commemorative month, or significant historical event, like when I did an episode about Gift Scouts in mid-March around the organization’s birthday. If all else fails, I will browse through our finding aids or walk through the stacks until something catches my attention."

"Archival Adventures" is a first of its kind. "Nobody else does anything quite like this," said Wright de Hernandez. "Most archives share content via exhibits, blogs, or social media posts, but I haven’t found anyone else inviting the public to come join in a live broadcast to look at materials with them as they see them for the first time. The closest I’ve seen is a pre-recorded, edited video where the archivist shares details about the items. "Archival Adventures" doesn’t do that. Most of the time, I’ve never seen an item before and the viewers are getting my reaction live. We’re discovering things together and learning together.

I don’t spend a lot of time looking at things before sharing them," said Wright de Hernandez. "That gives the show the unboxing feel, but also means we sometimes find outdated language or offensive imagery. Those surprises are bound to happen with old archival materials. I don’t try to gloss over them. We usually take a moment to acknowledge it’s a problem and why and then move on. Learning how to do that is one of the most important things I learned from running the show."

Rich in history

"Archival Adventures" has delved into many diverse topics over the years:

- NASA’s space stations and interstellar flights
- Celebrities like the Carter/Cash family and Edgar Allan Poe
- Home remedies, folk medicine, and patent medicines
- Melvin N. Gough’s papers on a flying boat, comet, and flying saucers
- Holiday cocktails and mocktails
- Spooky, creepy, and haunting items in the archives

Rare miniature books

Two episodes stand out to Wright de Hernandez. Episodes 6 and 109. Episode 16 was a volume of 50 illustrations of fungi and algae with their Linnaean classification information dubbed Watercolors of Fungi by the archives. "We don’t even know the exact date of its creation but the illustrations are gorgeous," said Wright de Hernandez. Episode 109 is the G. Grahame Duce Papers. "This collection is a set of papers about aircraft from the 1930s-40s that read like magazine articles," said Wright de Hernandez. "They are expertly crafted narrative pictures and a joy to read. The finding aid says he was the president of Duce Aeronautical Research but, other than their names, we don’t know much about him or the company - it’s a mystery."

The future of ‘Archival Adventures’

More episodes, More guests. More people. Wright de Hernandez said he plans to start inviting more guests to join him as co-hosts and explore materials on topics they find interesting. "I’ve had Kira Dietz, assistant director of Special Collections and University Archives and food history expert, join me a few times on stream, and it’s always lots of fun talking about historical food items and how they came about."

Wright de Hernandez said he’s hoping to bring a student assistant or two on board to help with episode production, selecting episode topics, and making YouTube Shorts videos from old episodes to help grow the viewership.

"I’m a curious person and I love getting to spark curiosity in others," said Wright de Hernandez. "I enjoy learning new things and I love learning about what’s in our collections. Archives are often seen as restrictive and unapproachable places where you need to have some specific academic research purpose to be allowed to see the materials. That’s ancient history. I want people to know they are welcome to come in and look through a collection because they’re curious to see what’s inside. You don’t need a reason - the materials are here for people to use."

Number crunch

Followers are growing and Episode 116 is about to air. Created in the University Libraries’ Media Recording Studio, Wright de Hernandez broadcasts about 45 episodes per year with as many as 1,000 views. Regular viewers hail from at least eight U.S. states along with Guam, Canada, Germany, Finland, New Zealand, and the United Kingdom. "I provide a collaborative learning space where people worldwide explore and discuss history together, or how fascinating or inspiring something is, or just how much they enjoy seeing things they might never have otherwise had the chance to see."

University Libraries’ Community Collections Archivist Anthony Wright de Hernandez leads Twitch viewers on an adventure deep into rare archives that tell stories about Virginia Tech’s history, the community, and the world. Photo by Chase Parker for Virginia Tech.
BLAST OFF INTO SPACE AND EXPLORE the system through a unique virtual experience that sends users into orbit. With support of a National Science Foundation grant, a team of developers in the Applied Research in Immersive Experiences and Simulations (ARIES) program in University Libraries is using virtual reality to develop an interactive universe.

In this experience, users become virtual astronauts and move through space to visit all of the celestial bodies in our solar system.

“The purpose of this program is to create a virtual reality experience for young learners to engage with STEM content that is inclusive and comfortable in a way that allows for socially constructed learning,” said Todd Ogle, executive director of ARIES.

A new method of exploration

Instead of using virtual reality headsets, this experience utilizes handheld tablets that serve as windows into the virtual space.

“When you’re wearing virtual reality goggles, you can’t engage directly with anyone else in the space with you. You can’t see them. You can’t talk directly to them in an easy or natural way. We wanted learners to be able to use normal social interaction as part of the learning experience,” Ogle said.

After the actual scale is established, the celestial bodies are enlarged to a size more supportive of active learning. Users are then placed into different scenes, such as the phases of the moon or the mechanism behind the ocean tides, finally having an opportunity to build their own planet.

Addressing misconceptions about space

“The kids love the planet-builder feature. They get to pick different attributes like whether it’s a rocky planet or a gas giant, orbit velocity, and where it is placed in our solar system,” said computer science major and immersive developer Clara McDaniel.

“The program’s creators designed an immersive experience that accurately represents how the solar system functions. This means myth-busting some popular misconceptions.

“There are a lot of ideas that students have such as how big all of the planets are and how close they are to each other as well as how the moon phases truly work,” said Matthew Gallagher, computer engineering major and immersive developer on the project. Users are virtually placed in the true-to-size solar system. When accurately presented, planets are impossible to see. The sun, which only takes up two pixels on the screen, is the only object visible to the human eye. To make sense of the black void, the developers placed arrows to point to where planets would be in their orbits.

A young learner journeys through the solar system in a virtual experience created by ARIES. Photo by Kelsey Bengtson for Virginia Tech.

Collaboration is key

The creation of the virtual solar system requires collaborative efforts from Virginia Tech and beyond:

- Sang Won Lee, principal investigator, computer science
- Todd Ogle, co-principal investigator, University Libraries
- Myounghoon Jeon, co-principal investigator, industrial and systems engineering
- Phyllis Newbill, co-principal investigator, Center for Educational Networks and Impacts
- Chelsea Lyles, co-principal investigator, Student Affairs
- Katherine Brooks, director of operations, Science Museum of Western Virginia

Working in collaboration with the principal investigators and under the supervision of Sarah Tucker, program coordinator for ARIES, a team of students from disciplines across the university developed the program, incorporating physics, instructional systems design, and art along the way:

- Matthew Gallagher, computer engineering, Class of 2025
- Leah Ican, computer science, Class of 2025
- Clara McDaniel, computer science, Class of 2025
- Atlas Vernier ‘23, industrial and systems engineering and French
- Macey Cohn ’23, computer science
- Shane Bennett, computer science, Class of 2025
- Priyanka Nair ’23, computer science
- Karina Springer, graphic design, Class of 2024
- Alayna Ricard ’22, creative technologies
- Naycha Pochiraju ’22, creative technologies

Every solar system needs a galaxy to call home

The virtual solar system is still in its developmental stages, but it is slated to be completed in the fall of 2024. Once finished, it will reside in the Science Museum of Western Virginia as an interactive exhibit.

SEE THE VIDEO news.vt.edu/videos/k/2023/08/1_wu3me14e.html
STUDENTS AND OTHER MEMBERS of the community helped experienced graffiti artist Good Homie Signs produce two 16-foot-long murals that honored the history of hip hop and introduced newcomers to the art form.

“This is all about creating access to this type of art. Graffiti and aerosol art are largely something that’s done in the shadows. Bringing it out here and giving it the spotlight it deserves in a more friendly and welcoming space is really important,” said University Libraries Community Engagement Coordinator Craig Arthur, who leads the organization.

A New Student and Family Programs Weeks of Welcome grant, which supports events during the first three weeks of the fall and spring semesters, funded the workshop.

Breaking stereotypes

Hip-hop culture long has been subject to misconceptions and stereotypes that often overshadow its positive influences. Digging in the Crates is working to change the public perception as well as elevate the study of hip-hop culture.

“I like to go against the negative connotation automatically given to graffiti. Some people just see it as people tagging stuff or committing property damage or something like that. But it is far more than that,” said Ethan Quiah, a junior studying business information technology.

“It’s a medium to express how you truly feel. It goes far deeper than just someone trying to deface something or commit property damage. It gives you an ability to address the greater issues at hand.”

Through the graffiti workshop, Digging in the Crates was able to shed a positive light on aerosol art, demonstrating how it is an important form of self-expression that can be beneficial to society.

“I think it’s really important for Virginia Tech to provide a space to do this because it allows people to expand creatively and explore new activities, ideas, and mindsets that one wouldn’t have previously seen if they hadn’t gotten this opportunity here,” said Mikaela Saint Hilaire, a junior studying graphic design.

The importance of graffiti

Graffiti art, a facet of hip-hop culture, serves as a medium for storytelling and can be an outlet for societal change.

“Graffiti is one of the four major elements of hip-hop. You can’t truly have hip-hop culture if you deny graffiti and its impact from where it started, to how it’s constantly tied into the culture,” said Quiah.

As hip-hop’s most visual element, graffiti has served as a medium for marginalized communities to reclaim public spaces and express cultural identity for decades. The vivid colors, bold lettering, and imaginative designs found in graffiti have been featured on album covers, music videos, and clothing associated with the hip-hop movement and numerous cultures worldwide.

Redefining acceptable art in academia

While graffiti has long been a vibrant form of art in urban culture, it has been, in large part, left out of mainstream academia.

“It’s important to include hip-hop in academia because it is one of the greatest global cultural forces in the last 50 years. It impacts almost all facets of our popular culture and is truly international in scope,” Arthur said.

University Libraries has taken steps to highlight hip-hop art in recent years. In addition to hosting aerosol art workshops through Digging in the Crates, a graffiti mural that features Virginia Tech’s motto, Ut Prosim (That I May Serve), has been displayed on the second floor of Newman Library since it was created in the fall of 2020 during a similar Digging in the Crates program.

“Ut Prosim,” a graffiti mural displayed on the second floor of Newman Library, was produced by Good Homie Signs. It has been on display since fall 2020. Photo by Kaleigh Miller for Virginia Tech.

Tanner Valachovic participates in the aerosol art workshop. Photo by Kaleigh Miller for Virginia Tech.

IMAGINE: University Libraries at Virginia Tech
RACIAL DISCRIMINATION in Housing Covenants

By Elise Monsour Puckett

BETRIED IN THE FILES OF CHICAGO’S COOK COUNTY are records of racially prohibitive covenants and deed restrictions. In the first half of the 20th century, these legal instruments promoted racial segregation. First created and deployed by individuals, real estate leaders, and economists who led national organizations based in Chicago later embraced them. During this time, covenants and restrictions covered about 80 percent of homes.

A research collaboration between University Libraries and the Department of History in the College of Liberal Arts and Human Sciences at Virginia Tech, along with students at the University of Chicago and Northwestern University, is uncovering the stories of how racial segregation in Northern cities was intentional. Evidence proves that “it was a system that was intentionally created, house by house, block by block, and subdivision by subdivision, across the city and across the country,” said LaDale Winling, associate professor of history and the study’s principal investigator.

A multidisciplinary team at Virginia Tech is digging into these historic records and shining a light on this important racial issue.

Originating as an awarded Libraries Collaborative grant and most recently a $150,000 grant from the National Historical Publications and Records Commission, this project focuses on metro Chicago and explores two questions: How widespread were the covenants? What role did these racial covenants play in creating and maintaining racial and spatial inequality in metro Chicago?

To answer these questions, the team is creating best practices and data and metadata standards for capturing, managing, and archiving covenant documents. Data tools such as ArcGIS and Tableau will facilitate the analysis and visualization of these covenants after digitization.

Racial covenants and deed restrictions were used in a scattered, uncoordinated fashion until the 1910s, when a leading real estate developer began heavily using and promoting deed restrictions. Ten years later, a Supreme Court decision let a racial covenant in Washington, D.C., stand. Afterward, their use spread far and wide.

Commonly, covenant documents contained explicit racial restrictions that only allowed white people to own or inhabit properties. These restrictions would remain in effect even when the properties changed hands, and some restrictions included whole subdivisions. The team found the sheer number of these covenants that exist in the area far exceeds initial estimates. Although this project’s focus is the Chicago area, racial covenants are present in many cities around the United States.

“Almost all covenants were well-known, but these documents were often scattered in the collections of county land records archives along with mortgages, sales, and other property transfers,” said Winling. “Finding a racial covenant was like finding a needle in a haystack. Many research efforts since the 1940s gave up or sampled the neighborhoods because the research was too labor intensive.”

The team aims to eventually identify and interpret every covenant in Cook County, showing how widespread the covenants are and were. In addition to creating a metadata standard to document these files, University Libraries has created an interactive webmap to aid in the visualization of racial covenant locations in Chicago — and, one day, beyond.

“The webmap shows that in many Chicago neighborhoods, there were no properties that were untouched by racial covenants,” said Winling. “It helps lead the way for research projects in cities all over the country.”

“My passion for this project centered around the use of mapping/GIS as a powerful tool for exploring social justice issues, like racial inequality in its past and present forms,” said Ed Brooks, University Libraries geospatial data consultant. Humphreys, the lead creator of the webmap, designed it to show the location of and information about racial covenants in several of the main neighborhoods in Chicago and in Cook County, but it wasn’t easy.

“While making the webmap, one of the biggest challenges for me was deciding how to design the map,” said Katherine Humphreys ’23, former library student employee and meteorology and geography graduate. “We put a lot of thought into the layout and design so that we could give users the most information in a clear, concise, and intuitive way.”

“I was surprised that there are not many projects like this, so there was not a standard blueprint to follow,” said Humphreys. “This gave us a lot of flexibility which was amazing, but when making decisions we had to be very thoughtful and create our own standards as we went.”

The power of webmaps

“This project serves as a great example of how geospatial visualizations like webmaps can be used to convey a lot of information about a topic quickly,” said Jonathan Petters, University Libraries associate director of data management and curation services.

“Chicago-area citizens in particular neighborhoods can easily see whether their residences or nearby residences once had restrictive covenants, and this can spark their curiosity, interest in, and engagement with the topic. As more covenants were added to the map, we expect engagement will increase.”

Winling said researching racial covenants is one of the ways that scholars can recognize and explore the work of the legal Civil Rights Movement at mid-century.

“Collaborating with the library is particularly rewarding because it helps introduce new modes of research and communication. When historians find and collect paper documents and write about them, they normally only need to be comprehensible to one person - the historian. But we are creating a digital archive for the public, meaning hundreds of thousands of viewers could be navigating the resources. To manage files and outreach like that, you need a librarian to discuss your document organization, how to scale up your data management, public communication needs, and how to think about your end users and prioritizing their different needs.”

University Libraries’ geospatial data services are highly collaborative with students and faculty across the university and beyond with projects like this one. “As a student, I loved working with the library because it gave me the opportunity to take the skills I learned in class and apply them to a topic that I never thought I would work in,” said Humphreys. “This experience with the library gave me work experience for the future and helped me explore what I like and want out of a future career.”
UNIVERSITY LIBRARIES AT VIRGINIA TECH recently became Virginia's only Patent and Trademark Resource Center designated by the United States Patent and Trademark Office to support the public with trademark and patent assistance. Services and resources can be accessed through University Libraries' branch locations in Blacksburg, Roanoke, and the greater Washington, D.C., metro area.

Sarah Over, University Libraries’ assistant professor and engineering collections and research analyst, led the application process for Virginia Tech’s designation as a Patent and Trademark Resources Center.

She saw the need

“This makes sense for an engineering librarian to do,” said Over. “No one in our state provides this service for the general public. It’s filling a gap. People across our region can drive to our libraries and access databases they can’t access off-site. We are also here to provide in-person or virtual help on how to use those resources.

“We need to make the public aware of the resources available to them,” said Over. “More companies are relocating or developing in Southwest Virginia. People are looking to invest in the region. We are here to help the public make the most out of opportunities.”

Many services available

- Provides access to the United States Patent and Trademark Office databases such as Patent Public Search and Trademark Electronic System.
- Directs you to information about applying for a patent or trademark and explains the application process and fee schedule.
- Provides a directory of local patent attorneys licensed to practice before the United States Patent and Trademark Office.
- Offers workshops on intellectual property and one-on-one consultations.
- Does not provide legal services as University Libraries’ experts are not lawyers and cannot give legal advice or conduct searches on your behalf.

Serving the underserved

“Anyone can take advantage of the center,” said Over. “Someone with a big idea may feel excluded because they live in a rural area and don’t know where to start. Now a local entrepreneur or manufacturer who invented something and would like to patent it can come to our center in Newman Library to help find the resources they need to start the process. They are not left behind. This could have an impact on the economic development of the whole region.”

Researching family history

The Patent and Trademark Resource Center (PTRC) in the University Libraries at Virginia Tech can help research family accomplishments. Someone might remember a grandfather or great-aunt patenting an invention or having a trademark and want to learn more about it.

A valuable collaboration

Virginia Tech’s LICENSE and LAUNCH teams currently help guide the university’s faculty in matters of technology commercialization — a key part of that is patent and trademark protections. This new center will be a positive addition and valuable resource for the region’s inventors and the university community.

“This center will benefit LICENSE because much of their time is spent conducting market research, prior art research, and negotiating licenses for technologies owned by Virginia Tech,” said Connie Stovall, University Libraries’ director for research and impact intelligence, who works directly with LICENSE + LAUNCH.

“Having said that, faculty sometimes conduct due diligence on their own before disclosing their inventions to the LICENSE team. It will benefit faculty to have a place to learn more about patents, patent searching, and the patent application process. Also, LICENSE does not serve the student body or the community at large, so the PTRC will serve as a great source of information for them as well.”
Rematriation Project: Restoring and Sharing Inuit Knowledges

By Ann Brown

INDIGENOUS KNOWLEDGE IS CRITICAL to solving challenges through scientific research. In the past, Indigenous communities have been treated unfairly. In November 2022, Corina Quaanag Kramer, an Inuit community leader living and working in a frontline community in rural northwest Alaska, and Cana Uluak Itchuaqiyaq, an Inuit assistant professor of professional and technical writing at Virginia Tech, led a 90-minute, interactive workshop that discussed their Rematriation Project: Restoring and Sharing Inuit Knowledges.

This project, a collaboration of Aqqaluk Trust, Virginia Tech’s English department in the College of Liberal Arts and Human Sciences, and University Libraries at Virginia Tech, aims to create capacity for and access to digital archiving and data related to Inuit cultural, tribal, and scientific knowledge and history by strategically incorporating the community into a research design based on humility, cooperation, and responsibility to tribe.

Kramer said the importance of the topic is two-fold. “First, we need to be giving the Indigenous communities an equal chance to weigh in on what research is done on our Indigenous land according to our community needs, and also how it is done with respect to our values and knowledge systems,” said Kramer. “Secondly, as the communities experience a more equitable approach to research partnerships and they are truly given the ability to co-lead various projects, trust can be rebuilt. With more trust, there will be more open engagement in research projects, which will lead to far better outcomes.”

Itchuaqiyaq comes from an Inuit community in northwest Alaska and has experienced research as both the researcher and the subject. “Indigenous communities are the stewards and experts on their homelands and their communities,” she said. “Their wisdom should be incorporated, not just for equity’s sake, but as a strategy toward better research outcomes.”

Itchuaqiyaq said innovation in research comes from actively incorporating community partners in research design from its conception.

“This topic needs to be discussed because while there are a lot of reasons and even guides about incorporating equity into Arctic research, there is little information about what that looks like and how those partnerships play out in the nuts and bolts of projects,” said Itchuaqiyaq. “Corina and I are sisters and collaborators, and so that relationship affords frank conversations about the work and the process as well as common goals that we share and can advocate together for in our projects.”

This issue is personal for Itchuaqiyaq. Polar research is an important interdisciplinary area of study with generous funding support from federal agencies. However, she said the communities need to be at the center for better research outcomes. “My mama literally lives 30 feet from the ocean and the sea has been chipping away at that distance for years, but that’s not even our biggest concern,” she said. “Our community has a lot of experience and expertise, but it also has a lot of needs, dire needs. Our youth and our Elders are dying and our way of life is being changed dramatically. Research, if it is done in a good way that addresses community-determined and driven goals and needs and builds local capacities, can help. I’m invested in helping Virginia Tech be a part of the solution.”
University Libraries houses both the scholarly repository VTechWorks and the institutional data repository. Both repositories are seeing an increase in downloads, views, and Virginia Tech faculty who upload their work to share openly with the world.

Users from 122 countries visited or downloaded data from the Virginia Tech institutional data repository during FY23. The repository logged more than 55,000 downloads and 90,000 views, with the most activity coming from the United States, United Kingdom, and Germany. Virginia Tech faculty are taking advantage of University Libraries data services team to curate and upload 62 new datasets to the repository.

“These numbers meet my expectations,” said Jon Petters, associate director for data management and curation services. “For dataset publications, it’s a big increase from where we were two years ago (at 37 data set uploads) when we migrated to our new repository platform. Now that we have data publication workflows that are positioned to scale up, I anticipate conducting further outreach this year toward increasing these dataset publication numbers in the future.”

“Once we have a longer track record of existence we can expect to see our published datasets show up in reference lists for peer-reviewed research publications,” said Petters. “That’ll be interesting to track when the time comes!”

VTechWorks, Virginia Tech’s scholarly repository created in 2010, logged close to 17 million file downloads—a 196% usage increase from the previous year. The VTechWorks team also received a 230% increase in requests for embargoed electronic theses and dissertations (ETD) over the last year.

“We get these daily from users all over the world and pass them on to the authors who can then decide to make the item public, share the file with the requestor, or deny the request,” said Philip Young, University Libraries’ institutional repository manager. “ETDs are usually embargoed because the authors are publishing papers or a book derived from the work.”

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Philip Young
CLOSE TO FOUR DECADES OF RECORDS documenting political history and progress in Southwest Virginia now reside in the University Libraries’ Special Collections and University Archives at Virginia Tech. The collection features 76 boxes including 6,111 folders and 72 awards spanning former Congressman Rick Boucher’s political career.

Boucher was a member of the Virginia Senate for seven years before being elected U.S. representative for Virginia’s 9th Congressional District in 1982, a position he held until 2011. With 28 years of service, he is the longest-serving representative in the history of the 9th District.

He gifted his collection to the University Libraries at Virginia Tech to make it available to all who wish to learn from it. Special Collections and University Archives Project Archivist Bess Pittman arranged and described items in the collection to create a detailed finding aid and other access tools for researchers.

“The collection reflects Rick Boucher’s professional work, including correspondence, numerous handwritten presentations he delivered in committees and on the House floor, hundreds of photos, awards, memos from his office, newsletters, brochures, pamphlets, campaign materials – basically everything that came in during his work as a congressman and state legislator,” said Pittman.

Throughout his political career, Boucher worked with many universities and colleges. But when it came time to gift his materials, he chose Virginia Tech.

“I had a long association with Virginia Tech, working actively with four Virginia Tech presidents. It was the largest institution of higher learning in my district and its largest employer, and I wanted my papers to go there given how respected the institution is. The university’s acclaimed technical expertise appealed to me because a lot of this collection now has the capability of being made digitally accessible by anyone who has internet access,” Boucher said.

At this point, a small digital exhibit provides online researchers a sampling of just over 200 items from the collection. Archivists are now working to add more digital content from the collection to the site. Pittman was responsible for organizing all of the materials into one cohesive collection, a process that took nearly a year. She believes the expansive collection contains information that will prove invaluable for historians, students, and researchers.

“It offers some really amazing insights into the work that goes into governing a region. The primary focus is the 9th District, but you can see the ripples into the broader work that Boucher was involved in,” she said.

Specifically, Pittman noted how instrumental Boucher was in the commercialization of the internet. He was the lead author of the 1992 legislation that, when signed by President George H.W. Bush, for the first time allowed commercial content on the internet, enabling money to be made online and ushering in the world of electronic commerce and revolutionizing the global economy. After Boucher’s legislation was signed into law, electronic commerce was born in the United States and then spread to the rest of the world. Given its centrality to today’s economy, we can hardly imagine a time when it did not exist.

“The internet really has had such a profound impact on global society,” Pittman said. “It would have been impossible to know at the time exactly how world-changing this technology would be, and yet, he decided the time for a new digital era had arrived. His impact in making electronic commerce a reality cannot be overstated.”

Among the papers are materials reflecting Boucher’s deep involvement in the major legislation shaping telecommunications policy over a quarter of a century, including the Communications Act of 1996 of which he was a sponsor. The collection also reflects Boucher’s work as the lead author of the legislation creating Virginia’s first national forest wilderness areas and his papers and handwritten presentations from President Bill Clinton’s impeachment, during which he was selected by House Democratic Leader Dick Gephardt to take the lead in the Judiciary Committee and on the House floor as a primary sponsor of the Democratic censure motion as an alternative to impeachment.

Boucher’s work as a subcommittee chair fashioning legislation to control greenhouse emissions as a response to the challenge of climate change also is reflected in numerous handwritten presentations he made as the legislation advanced.

In the collection are extensive files from the time that as a state senator he carried to passage comprehensive legislation reforming the state’s criminal sexual assault laws and the state’s drug laws.

A lot of hard work goes into archiving a collection of this size, but for Pittman, it’s all worth it.

“An archive exists as a way to transmit the voices of the past through history and into the future. Without repositories like this, we lose so much of our cultural context. We lose so many of those voices. By preserving them, we allow people to gain the wisdom of the past, and we can do research about the people and places that made us who we are.”

Boucher hopes that this collection can influence others to be involved in public service and advance ideas that promote positive change.

“Public service was very important to my family,” Boucher said. “I learned at an early age from my bipartisan parents that it’s one of the best ways for a person to make a meaningful contribution to society. I hope that people accessing this collection get a sense of what active involvement on behalf of a region and a country can be, and what can be achieved if a person applies time and attention in the public sphere for the benefit of others.”

Researchers interested in Boucher’s collection should explore the detailed finding aid to help target material of interest. Because of the large volume of material, the collection is housed at an offsite facility which requires advanced notice for retrieval.
University Libraries celebrates Virginia Tech Authors at recognition event

By Ann Brown

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. Also 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.

“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’s a book about hip hop, there’s a children’s book, there’s 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 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 for consideration 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 that 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.”
A recently launched book has hooked many students and faculty across Virginia Tech. The new open textbook released in June, titled "Fish, Fishing, and Conservation," provides a look into the deep and fascinating lives of people and the fish life they pursue. "Fish matter. But our relationships with fish are as diverse as the fish and the many places they live," said Donald Orth, author and professor of fish and wildlife conservation in the College of Natural Resources and Environment.

Funded by a 2019 VIVA Open Grant with additional funding and collaboration from the Open Education Initiative of University Libraries, this peer and student-reviewed, freely available textbook brings to the surface discussions about ethical issues and evidence-based policy and regulations. The book is the only college-level textbook with a fish and fishing focus that is written for all college students, no matter their major. "How we understand, value, and deal with fish depends on our culture and our personal reflections on fishy questions," said Orth. "The well-being and livelihoods of many humans are directly tied to fishing. The book was written for college students of all majors so they can live their lives in ways that respect the many values of fish and respect the perspectives of those with differing values."

It takes a village

"Fish, Fishing, and Conservation" is a freely available open textbook that makes the cost of education more affordable for students. This book is intended for a general education course, is research-based, and includes many examples, stories, videos, and links to ensure that the content is as engaging and as relevant to students as possible.

"When the new Virginia Tech Pathways General Education program was approved, I proposed a new course — Fish, Fishing, and Conservation," said Orth. "The new course fulfills core concepts of natural science reasoning, social science reasoning, and ethical reasoning. The global world of fish and fishing provides many examples to apply these concepts.

Sharing knowledge and encouraging dialogue are priorities with Orth's students. "That's why the open education approach to publishing resonates with me," said Orth. "Instructors from throughout the world can easily find and browse the content as they assemble suitable teaching materials. There are no paywalls that block my students from engaging in debates about fishing policy and regulations. True ethics teaching takes place only when the individual student realizes that personal change has taken place."

Reeling students in

According to incoming Virginia Tech instructor Joshua Mouser, it is one of the most readable textbooks he has ever read. "I'm excited to use the textbook to teach Fish, Fishing, and Conservation this fall," said Mouser. "It is critical to have a free resource such as this that is authoritative yet simple to read — especially for someone teaching for the first time. Everyone plays a role in conserving fish through the choices they make, and this book will challenge students to think about their role in conservation. Dr. Orth's many years of experience and passion for fish conservation are evident when you read Fish, Fishing, and Conservation."

A pool of student reviewers said the material was written in a more succinct and colloquial format than typical textbooks, it was easy to find the information they were looking for and being able to get the information they needed easily and freely, valued it.

The student reviewers were also hooked on the graphics and found the examples in the book very helpful. For instance, Orth said, "Fresh fish don't smell bad. That's a fact. However, fish flesh spoils quickly. That too is a fact. We cannot reason without knowing relevant facts to use in argumentation. The art of dialogue and argumentation is not appreciated enough. However, fish and fishing are surprisingly good subjects for developing our skills at argumentation."

Walz said she is passionate about this project because of the value for students and value for the field. "Don Orth has had a long career at Virginia Tech and this effort speaks to his commitment to students and quality teaching. We hope that other schools will create courses that cover this material, as no book like this exists either in the open arena or on the commercial side," said Walz.

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Ever since his college days, Orth has sought to see the big picture. "The value of a textbook should not be how much it's worth when resold to the bookstore," said Orth. "The value is in starting a conversation. The textbook uses 'Questions to Ponder' within each chapter to encourage verbal processing, which helps students remember and think through the themes of the book. Questions before, during, and after a session encourage comprehension. All chapters have learning objectives, key takeaways, and so much more for those who wish to explore deeper."

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MUSIC TEXTBOOK connects students to historically excluded composers

By Suzanne Irby

AS A STUDENT, DEREK SHAPIRO read music from a big, black folio. At 18 by 20 inches, it was the kind you’d have to cram into your backpack to make it fit. The corners would be bent and the pages would be worn by the end of the year. The folio has since evolved, said Shapiro, director of bands and assistant professor of music at the School of Performing Arts in the College of Architecture, Arts, and Design. Its contents, though, are in need of catching up.

For decades, music textbook publishers have relied on music available in the public domain for études — short compositions used to teach performing and conducting techniques. Most of the music that has circulated in the public domain, however, was composed by the same batch of people: dead, white men of European descent, such as Ludwig van Beethoven and Gustav Mahler. Composers of color and women-identifying composers are making music that students need to see, said Shapiro and his colleague, Jonathan Caldwell, director of bands and assistant professor of conducting at the University of North Carolina at Greensboro. Last year, Caldwell and Shapiro came up with a way to help students access those works: They could create an open-access music textbook featuring études from living, historically excluded composers.

In collaboration with the Open Education Initiative in the University Libraries, Shapiro and Caldwell developed “Original Études for the Developing Conductor.” These études were commissioned from and composed by 25 living composers, the majority of whom are women-identifying composers or composers of color. Featured works include Chen Yi’s “Ban,” a piece that pulls its pitch material from folk music in northern China; a tumbao by Ivette Herryman Rodriguez, drawing from the Cuban genres of son and salsa; and Susan Botti’s “Vespers (Walking in Beauty),” inspired by movement and nature.

Shapiro and Caldwell teamed with Anita Walz, assistant director of open education and scholarly communication librarian at University Libraries, and Kindred Grey, open educational resource and graphic design specialist, to produce the textbook with the goal of giving conducting students and others a free, digital-first learning resource. The project was supported by funding from the Collaborative Research Grant and the Open Education Initiative of Virginia Tech’s University Libraries as well as the Libraries’ Textbook Affordability Program Grants program of the University of North Carolina at Greensboro.

Through the Open Education Initiative, Walz and Grey have worked with Virginia Tech faculty members to develop freely available learning materials in wide-ranging subjects, including earth science, theatre, aerospace engineering, and gardening. These resources help fill niche gaps that the bigger textbook publishers don’t cover, but the major undercurrent to the initiative and Walz and Grey’s work is giving students free learning resources, Walz said.

“Doing what we can to enable students to be successful is really the heart of what it means to be a land-grant institution, to exemplify the mission of the university, to the Ut Prosim mentality,” Walz said, referring to Virginia Tech’s motto meaning “That I May Serve.”

There are open-access music theory and appreciation textbooks out there, Caldwell said, but virtually none for performance, which puts financial strain on students.

“You’re asking them to buy a textbook and a baton, so all of that together, even on the cheap side, is probably around 80 bucks,” he said. “What can we do to help students not have to pay for another textbook?”

The team of four also knew that creating a textbook that would serve today’s music students meant enabling them to easily navigate the resource with the phones, laptops, and tablets they now use, to jump between sections of the textbook. During class, Shapiro and Caldwell’s conducting students move between conducting at the front of the room and performing specific parts in an ensemble. They need to be able to toggle back and forth between the parts they play and the scores they conduct, Shapiro said, which students tend to do on one of their devices.

As the textbook’s graphic designer, Grey built the means for jumping around into the book’s PDFs, with links and QR codes at the bottom of every page, enabling the user to move between transposed parts for their instrument, the table of contents, and the book’s main landing page. QR codes also take students to YouTube, where they can listen to each étude. For Shapiro, these details for digital navigability feel disruptive to the music publishing industry on the whole.

“I haven’t seen a textbook with this model, up to this point,” Shapiro said. “We suspect we’re going to see some copycats. We hope so, because this is the way it actually should be.”

Shapiro and Caldwell have yet to see their students use the textbook, which was published in late spring and will be part of their conducting classes this fall. But they’ve found its early reception overwhelming, with 3,000 digital downloads from 38 countries in the two months after its release. “In my head, if we had 500, we would be lucky,” Shapiro said.

The project is a finalist for this year’s Association of Learned and Professional Society Publishers Impact Award. Shapiro and Caldwell credit Walz and Grey for the recognition and for their project management and “painstaking” design work.

“If we had tried to do this on our own, it would have been impossible,” Caldwell said. “The book has an ISBN number. It has a Library of Congress cataloging code. That’s awesome. If Derek and I tried to do it on our own, it would’ve just been a collection of PDFs. Anita and Kindred made it into an actual book.”

The University Libraries’ Open Education Initiative is actively seeking projects for spring and summer. Learn more about authoring and publishing freely available textbooks and other open educational resources.
Private support makes restoration of historically significant and rare materials possible.

SPECIAL COLLECTIONS AND UNIVERSITY ARCHIVES consistently acquires rare books, manuscripts, and other unique materials from donors, book dealers, and other sources. These acquisitions preserve history and provide researchers access to significant primary sources. But many of these items are in such poor condition, due to overuse, damage, or bad solutions like duct tape, that they literally fall apart in your hands and thus cannot be used by researchers. Each year, Special Collections and University Archives sends a small selection of damaged books, manuscripts, and ephemera to a professional conservator.

What follows is a selection of historically significant items that were rescued by the hands of a professional conservator and are available for teaching, learning, and research. Many of these items are used in overview instructional sessions as a way to introduce Virginia Tech students to the challenges of using primary sources.

Macon County, Alabama, Household and Recipe Book, 1842-1919
Restoration: $2,183

This household and recipe book with journal entries by a variety of authors including Miss Zoonomia D. Hoxey Carter and Mrs. M.P. Edwards. The majority of the book pertains to culinary interests such as recipes for cakes and icings, pickles, breads, and beer. Most of the recipes contain a listing of ingredients and preparation methods with measurements that include the unfamiliar such as saltspoon and wine glass.

Included in the book is an elaborate description of each enslaved person’s household duties including tasks and schedules. Several personal letters dated between 1842 and 1891, poetry, and prayer are also folded and inserted between the pages.

Ulysses by James Joyce, first American edition, 1934
Restoration: $870

Ulysses was first published in parts in The Little Review, an American avant-garde magazine, between 1918 and 1920. It was banned for further publication by authorities of the day for being prurient and obscene. In 1922, it was published in book form by Shakespeare and Company, a Paris bookstore. In 1934, Random House, in New York, published the first American book edition.

Bronte Bible, 1612
Restoration: $6,611

The Bronte Bible is a very early edition of the King James Bible kept by the Bronte family. It is signed by Charlotte Bronte, English novelist and poet, and inscribed “1834 Haworth.” The family is primarily associated with the town of Haworth, and Charlotte and her sisters Emily and Anne were born in nearby Thornton. Charlotte would have been about 18 years old when the Bible was inscribed.
Harvey Black Medical Account Book, 1854 - 1861
Restoration: $3,010
Harvey Black, grandson of Blacksburg’s founder John Black, opened a medical practice in Blacksburg, Virginia, in 1852. This book documents his medical career from 1854 until 1861, when he was appointed regimental surgeon in the 4th Virginia, 1st Brigade, known as the Stonewall Brigade.

After the Civil War, he resumed his medical practice and was elected president of the Medical Society of Virginia in 1872. He also played a fundamental role in the founding of Virginia Tech and served as first rector of the Board of Visitors.

Meade & Baker Apothecary Ledger, 1861-1870
Restoration: $3,359.88
This single account ledger from Meade & Baker, a pharmaceutical business in Richmond, Virginia, contains more than 600 pages of customer names and addresses, dates of purchases, itemized lists of purchases, and payments. The store’s sales included pharmaceuticals and related health and beauty goods plus household items such as spices, chewing tobacco, stamps, and pencils.

Many of the account entries made during the 1860s illustrate rampant inflation within the Confederacy. For example, the price of a toothbrush in February 1861 was $0.25. By January 1865, it was $12. The ledger includes information only for customers outside of Richmond suggesting that it may have been used to record only mail-order purchases from one of the largest drugstores in nineteenth century Richmond.

Special Collections purchased the ledger from a book dealer in 2009. It had been in a basement of a building that burned during the fall of Richmond in 1865, so there was significant water and mold damage.
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