A newsletter for friends of the

University Libraries at Virginia Tech

SUMMER 2018

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Welcome from the Dean

Dear friends of the University Libraries at Virginia Tech,

Welcome to the Summer 2018 edition of Imagine, the newsletter of the University Libraries at Virginia Tech. Through the stories and photos in this newsletter, you will see that the concept of a modern research library is different than what it used to be. According to Joan Williams, a thought leader in the area of re-imagined libraries, "Libraries are no longer grocery stores where students can go to pick up ingredients, but kitchens where they have the resources to create a finished product." This is our kitchen. We have the ingredients for solid research and other academic endeavors, and the spaces to collaborate, create and innovate.

The University Libraries has emerging technologies and spaces made for creative collaboration. Our series of studios encourages ingenuity and innovation with advanced hardware and software, 3D printing, virtual reality, data visualization, and more.

Our growing open data and research repositories facilitate exchanging information and knowledge regardless of geographic, institutional, or financial barriers. And our work supporting open access publishing and open educational resources supports the growing need for openly available research and learning materials. Through Special Collections, we provide rich primary source materials for students and scholars to evaluate and use in new and different ways. Our digitization efforts aim to expand access to these rare and unique collections.

We reach beyond the walls of our main location on campus, Newman Library, to the Art & Architecture Library in Cowgill Hall and the Veterinary Medicine Library in the Virginia-Maryland College of Veterinary Medicine. In addition, the Northern Virginia Center has its own library branch in Falls Church, Virginia.

As you will see through the following stories, the University Libraries at Virginia Tech is much different than it was even five years ago. This is our re-imagined library with the resources Hokies need to be a force for positive change and to discover real and lasting solutions to complex challenges in our society.

All the best,

Tryle D. Watto

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

Students, faculty, and community members learn how to **explore, envision, and invent** in University Libraries studios

DURING A RECENT OPEN HOUSE in the University Libraries Newman Library, faculty, students, and community members were introduced to opportunities to explore, envision, and invent in Newman's studio network.

The technologies and creative spaces available in the 3D Design Studio, Fusion Studio, Media Design Studio, Data Visualization Studio, and Virtual Environment Studio are some of the latest learning tools on campus that can help bring ideas to life, enhance research, and create new knowledge.



3D Design Studio

"The studios exist because we believe that creativity is as critical a skill as literacy," said Patrick Tomlin, director of learning environments for the University Libraries at Virginia Tech. "We also believe that welldesigned learning spaces can be tools to shape meaningful interactions, make innovation tangible, and spark community."

Anyone can visit the studios and learn about new technologies from expert studio staff. Students and faculty need no previous knowledge of the studio technologies and tools; studio staff are experts and can provide



Virtual Environments Studio

hands-on training and education in such areas as 3D printing, virtual reality, and transforming complex data to be accessible and visually understandable.

"Recognizing that the process of learning can be just as important as the finished product, the studios emphasize hands-on, informal learning driven by thoughtful conversations and, whenever possible, peer-to-peer teamwork," said Tomlin. ■

To learn more about the Newman Library studios, visit lib.vt.edu/spaces/studios

University Libraries launches framework for digital literacy

TAKING ACTION and being active in the digital world involves understanding and effectively using a variety of online resources.

To help the campus community and beyond be better equipped to do this, University Libraries, with partners from across campus, launched a framework to enhance digital literacy as part of emerging, collaborative digital literacy initiatives.

The goal is to empower learners to navigate the complex digital world as both consumers and creators.

"This means helping learners to develop digital skills so that they can effectively manage their digital lives, such as monitor their online image, find credible data and information resources online, and use the latest online tools to create something new," said Julia Feerrar, head of Digital Literacy Initiatives.

The University Libraries and its campus partners have been building a shared vision and language for what digital literacy means.

"Definitions for digital literacy can vary



widely, ranging on a focus on baseline technology or computer skills, critical thinking and creativity in media consumption and production, and critical engagement in societal issues communicated through the digital world. With this framework, we're emphasizing those critical, creative, and social pieces of digital literacy," said Feerrar.

The framework was developed with input and feedback from across the Virginia Tech community, beginning with a University Libraries task force and culminating in faculty and graduate student feedback sessions during the Digital Literacy Symposium held in November 2017.

The framework also draws on several existing models, including Jisc's Digital

Capability Framework, the Association of College & Research Libraries Framework for Information Literacy for Higher Education, and Doug Belshaw's 8 Essential Elements of Digital Literacies.

"This framework serves to guide the development of digital literacy initiatives, including learning opportunities and resources. We welcome opportunities to collaborate within and beyond the Virginia Tech community," said Feerrar.

To learn more about digital literacy initiatives at Virginia Tech, contact Julia Feerrar at feerrar@vt.edu.

University Libraries VT Authors Recognition Event celebrates authorship

THE UNIVERSITY LIBRARIES RECENTLY HOSTED its annual recognition event that celebrates Virginia Tech authors who published in the past year. In all, the event recognized 83 authors of 96 books from all colleges across Virginia Tech.

The event also recognized the 224 Virginia Tech authors who published articles with support from the University Libraries' Open Access Subvention Fund. "The primary goal of the Open Access Subvention Fund is to provide Virginia Tech authors an opportunity to engage in new transformational open publishing and offer unrestricted access to digital research and scholarship," said Tyler Walters, dean of the University Libraries.

During the event, interim provost Cyril Clarke congratulated the faculty on their publishing accomplishments. "Congratulations. I want you to know we collectively appreciate the scholarship, the effort that results in these works. I want you to know what we are celebrating this afternoon goes to the very center of the academic endeavor at a land-grant institution," said Clarke.

Sylvester Johnson, assistant vice provost for the humanities, was among the authors celebrated during the VT Authors Recognition Event.



Sylvester Johnson, Assistant Vice Provost for the Humanities speaks to this year's honored authors

During his welcoming remarks, he acknowledged the importance of authorship to society and academia. "I'm very grateful for the organizers of this event, to take the time to bring together all of us, in a ritual way and a festive way to say what books do, what authorship does, what scholarship does, in the most broadly conceived way — it's so important for all of our lives," said Johnson.

"If it's any place that it should be celebrated, it is here at the university. But, we also know that these things are impactful beyond these walls," Johnson added.

For more information about publishing at Virginia Tech, the Open Access Subvention Fund or the VT Authors Recognition Event, contact Peter Potter at pjp33@vt.edu.

Virginia Tech is leader in open access book publishing initiative

VIRGINIA TECH IS ONE of only 12 universities across the nation to be invited to participate in a pilot initiative, Toward an Open Monograph Ecosystem (TOME), to provide greater access to scholarly books in the humanities and social sciences.

Faced with dwindling buyers for printed monographs, book-length works written primarily for specialized audiences, universities are looking for creative ways to publish their faculty's scholarship.

"It is a great honor to be part of this forwardthinking national effort to reimagine the model for publishing scholarly monographs," said Peter Potter, director of publishing strategy in the University Libraries. "The monograph remains the gold standard for scholarship in the humanities and humanistic social sciences. What makes the TOME initiative innovative is that it shifts the business model away from post-publication sales toward front-end publication grants."

In TOME's five-year pilot phase, Virginia Tech has committed to providing three baseline publishing grants of \$15,000 per year to faculty who place their monographs with a university press. Presses that accept these grants agree to make high-quality, platform-agnostic, digital editions freely available. All books published as TOME books are approved through the usual editorial and peer-review processes of the presses.

Danna Agmon, assistant professor of history in the College of Liberal Arts and Human Sciences, is the first scholar to receive a TOME grant. Agmon's monograph, "A Colonial Affair: Commerce, Conversion, and Scandal in French India," was published as a print volume in 2017 by Cornell University Press. Thanks to the TOME grant, an open access digital edition will be released in 2018, making it freely available to audiences everywhere, including international readers, who may not have access to libraries with comprehensive print collections.

"We are proud to be publishing our first open access title made possible by a TOME grant," said Cornell University Press director Dean Smith. "For the past three years, we have been making dozens of classic out-of-print titles available on our open access website Cornell Open and on major research databases, and now thanks to TOME publishing grants, more frontlist titles can be included in our program. This looks to be a very promising new business model for university publishers."

The TOME initiative was launched in spring 2017 after extensive planning by a joint task force of the Association of American Universities



Dana Agmon

(AAU), Association of Research Libraries (ARL), Association of University Presses, and 12 invited institutions, including Virginia Tech.

The University Libraries is the natural focal point for the TOME initiative at Virginia Tech, which is being jointly funded by the University Libraries, the Provost's Office, and the faculty member's college.

"We are ideally positioned to coordinate Virginia Tech's participation in TOME from the recruiting of prospective authors through the selection process, and ultimately the release of publication grants," said Potter. "We also advocate for the broadest possible access to scholarship everywhere, which fits perfectly into TOME's objective." ■

THIS IS MY TRUE AND HONEST BELIEF AND WISH I COULD PUT MY NAME DOWN.

If you have any remarks to add to this survey, please write them here just as fully as you like:

>>> Victory in Europe Day commemorated with national initiative to make available insights of American soldiers during WWII

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"IF AN INDUSTRIAL CONCERN were run as the Army is being run, it would be bankrupt in six months," one U.S. soldier wrote on a World War II survey.

"I think the whole nation should be asked to sacrifice as much as the soldier," another scrawled.

Still another concluded his handwritten remarks with a vigorous "To hell with Hitler!"

These sentiments are excerpted from just a few of the more than 65,000 entries captured in a remarkable collection of written reflections by U.S. soldiers who fought during the Second World War.

A team of Virginia Tech experts is bringing those narratives to a broad audience through The American Soldier in World War II, a national initiative aimed at using crowdsourcing and natural-language-processing techniques to reconstitute a comprehensive portrait of the largest army in U.S. history.

"This immense collection of World War II reflections provides us an unparalleled view of this monumental conflict from the personal perspective of the American soldier," said Edward Gitre, the Virginia Tech assistant professor of history who is leading the project.

Early in the conflict, the War Department created the Army Research Branch, a social and behavioral sciences unit that surveyed and interviewed approximately 500,000 soldiers over the course of the war. Participating service members were promised anonymity.

Free from the threat of censorship or retaliation, tens of thousands of those soldiers

not only filled out the lengthy surveys, but also provided handwritten commentary.

While the quantitative data were later digitized and are available through the U.S. National Archives and Records Administration and Cornell University's Roper Center for Public Opinion Research, the comments themselves have long been available only to those who could view them on microfilm rolls on-site at the National Archives building in College Park, Maryland.

As a result, the very personal words of thousands of soldiers have remained largely unread. So, in the spring of 2017, Gitre secured a National Endowment for the Humanities startup grant to create searchable digital archives of the soldiers' personal, real-time insights into military service. The National Archives has provided support as well, initially through the coordination of the public release of relevant digitized records.

Above all, this experience spoke to the pure humanity that these soldiers experienced. Zooniverse transcriber

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"During World War II, the U.S. Army was a 'citizen-soldier' force, as only a fraction of the more than 16 million men and women who served in the Armed Forces had any prior military experience," said Gitre. "For some, the transition came naturally; others had difficulty.

"These soldiers were eager to offer additional advice, praise, and criticism, and to share their stories of serving in the Army," said Gitre. "Their remarks touch on everything from patriotism to morale to such mundane topics as unsavory rations."

The American Soldier Project, said Kurt Luther, the initiative's technical director and



CC BY-NC-SA 2.0 by England via Flickr, Cropped "Soldier Returns From France With Rabbit Mascot"

an assistant professor of computer science in the College of Engineering, is "a researcher's goldmine into understanding the common soldier's experience during World War II. The key is to make their words more accessible to scholars and the public. Handwriting is generally hard for computers to read, but humans can be pretty good at it."

The project team took advantage of that human skill through a crowdsourced transcription project on Zooniverse, an online citizen-science platform with more than a million registered volunteers.

To help engage the public in capturing those remarks digitally, Virginia Tech also hosted a transcribe-a-thon on May 8 — the anniversary of Victory in Europe Day, better known as VE Day — from 9 a.m. to 5 p.m. in the Athenaeum of Newman Library. The university encouraged other sites across the country to participate virtually in the transcribe-a-thon as well.

Once the crowd has transcribed all the soldiers' handwritten responses, which Gitre predicts will take a year or two, the team's next task will be to relink that commentary to the multiple-choice survey responses using both human and artificial intelligence to identify salient topics across the collection, with natural-language processing and other innovative computational methods. The team will then make the reconstituted data accessible to the public and to scholars through an open-access website that will enable exploration of the surveys and responses.

Finally, the team will work with David Hicks, a professor in the Virginia Tech School of Education, to craft lessons for high school teachers and college professors, with the aim of using the handwritten reflections to engage students in primary-source analyses of wartime experiences.

"The U.S. helped the Allies win World War II because thousands of ordinary Americans fought and sacrificed, either on the home front or on the battlefield," said Luther. "It's important to understand the experience of these everyday men and women who gave so much for the greater good. This project helps tell the stories of their experiences in their own words."

The May 8 transcribe-a-thon was hosted by University Libraries in collaboration with the Department of History, the College of Liberal Arts and Human Sciences, and the Department of Computer Science.

Participants of the transcribe-a-thon posted their reflections and reactions to the soldiers' experiences on the Zooniverse website.

"Above all, this experience spoke to the pure humanity that these soldiers experienced," said a transcriber on the Zooniverse website. "Many of the responses were comical, sarcastic, genuine or just plain interesting. One response was literally 'SPAM SPAM SPAM, I SLEEP AND I SEE SPAM,' while others spoke about training that would improve combat effectiveness. I think that the humanity of those writing impressed me and made me understand the point of view of American soldiers much better than I previously did," said the transcriber.

In addition to Gitre and Luther, key project collaborators include Aaron Schroeder, a senior research scientist, and Gizem Korkmaz, a research assistant professor, both in the Social and Decision Analytics Laboratory of the Biocomplexity Institute. Schroeder and Korkmaz will extract data from the survey files and apply artificial intelligence tools to determine collection topics.

Other major Virginia Tech contributors include Nai-Ching Wang, project developer and a doctoral candidate in the Department of Computer Science; Michael Hughes, social science consultant and a professor in the Department of Sociology; and, in University Libraries, Corinne Guimont, digital publishing specialist; Christopher Miller, digital humanities coordinator; Michael Stamper, data visualization designer; Nathaniel Porter, data consultant; and Marc Brodsky, public services archivist.

"At University Libraries, we are particularly gratified to be playing a part because it requires us to draw upon expertise in multiple areas in which we are especially strong, including in the digital humanities, data management, and informatics more broadly," said Peter Potter, director of publishing strategy for University Libraries. "We see this as an opportunity not simply to bring long-hidden records out into the open, but to maximize their usefulness to the largest number of potential users, from scholars and students to anyone in the general public with an interest in America's crucial role in World War II."

> 6,300+ Transcriptions from 820+ people and 5 locations in one day

Representing 12 percent of the entire collection



Students transcribe soldier responses in the Athenaeum at Newman Library



University Libraries group study rooms will be named in recognition of generous gift for library renovations

TOM AND ANN CLARK had the opportunity to experience first-hand how well the university prepared their daughters Erin Clark Henry '01, Ph.D. and Lisa Clark LeCocq '04 and son-in-law Travis Henry '01, M.D., for success.

After earning undergraduate degrees from Virginia Tech, all three have pursued their dreams and gained success. Their daughter Erin Clark Henry '01 earned her Ph.D. in Neuroscience from Vanderbilt University and currently works for biotechnology company Genentech.

Travis Henry '01 earned his doctor of medicine degree at Vanderbilt University and is currently an attending physician at the University of California, San Francisco Medical Center.

Lisa Clark LeCocq '04 earned her master of arts degree in elementary education from New Mexico State University and teaches elementary school children.

"Erin, Lisa and Travis are the reason that we became involved as donors to Virginia Tech," said Tom Clark. "When we first decided to support Virginia Tech, we felt strongly that our support should be directed toward academics. Since the University Libraries is viewed as central to the teaching and learning functions of the university for all students, we felt that is where we could make the greatest difference with our contributions."

The Clarks' generous donation supported facility renovations inside Newman Library to better serve students. In recognition of their gift, the University Libraries will be naming two group study rooms on the fourth floor of Newman Library: The Erin Clark Henry '01, Ph.D and Travis Henry '01, M.D. Group Study Room and The Lisa Clark LeCocq '04 Group Study Room. "We are grateful for Tom and Ann's generous support as we continue to fuel innovation and creativity through our spaces, faculty expertise, and library resources," said Tyler Walters, dean of the University Libraries. "This is an important time for the University Libraries at Virginia Tech.



Photo Courtesy of Tom and Ann Clark

Private support truly makes a difference as we continue to renovate our spaces, add new technology and resources, and create the modern research library of the 21st century to serve the Hokie nation and the world."

The Clarks believe that Newman Library must evolve and modernize its facilities and services in order to remain relevant to the student body. "Attracting students with modern services like a coffee shop, a comfortable lounge, and high-tech and well furnished meeting rooms requires donor support to supplement university funding to make all of these things possible," said Ann Clark.

They are proud of what their children have accomplished and want to encourage other students to continue to work hard toward their academic and life goals. "By associating Erin, Lisa, and Travis with these study rooms, we hope that other students who use the rooms will be motivated to follow in their footsteps as successful alumni of Virginia Tech," said Tom Clark.



Alumni couple's passion for the environment leads to undergraduate research support in the University Libraries

SUSAN AND DAVE KEESEE are passionate about environmental sustainability and the success of Virginia Tech students. The 1983 graduates created the Susan and David Keesee Endowment for Undergraduate Research within the University Libraries to provide support for undergraduate research related to government policy and environmental sustainability—the first undergraduate research endowment in the University Libraries.

"Because we were both undergraduates at Virginia Tech and I received a scholarship from the American Association of Textile Chemists and Colorists and industry support for a group undergraduate research project, I understand what this type of support means to an undergraduate student," said Susan Keesee.

"Through Susan's and Dave's generosity in creating this first-of-its-kind endowment in the University Libraries, undergraduate students from across the university, regardless of discipline, can work together to solve realworld challenges in the area of sustainability and public policy," said Tyler Walters, dean of the University Libraries. "We are very grateful for Susan's and Dave's dedication and support of the University Libraries at Virginia Tech."

We hope the endowment will provide much needed support for undergraduate researchers. Dave Keesee, '83



Photo Courtesy of Susan and Dave Keesee

The Keesees met in their freshman English class. He chose Virginia Tech to study forestry. She came to study clothing and textiles. Both were co-op students near Hopewell, Virginia, beginning in 1979, a few years after the Kepone disaster—a costly chemical disaster at a nearby manufacturer of the insecticide Kepone.

After four work quarters, Dave Keesee decided the forest products industry was not for him, and changed his major to accounting. Since graduation, Dave has worked in audit, accounting and information technology, most recently serving as vice president for global finance shared services for IQVIA. Susan was a textiles professional for almost 20 years until changing careers to health sciences librarianship in 2002.

When the Keesees moved to North Carolina for career opportunities, they purchased a Flying Scot sailboat and sailed nearby lakes and the Neuse River.

"We enjoyed the opportunity to be outside in the combination of ideal winds and clean water," said Dave Keesee. "In the 1990s, however, there was tremendous growth in industrial hog farming in our state, and legislation supported changes in industry practice that conflicted with our expectations for clean water. During this time, we became more informed about public policy and how legislators and lobbyists are at odds protecting the interests of industry, nearby residents, and citizens."

Because of their personal concern for environmental impacts, the Keesees adopted environmental sustainability in their daily life by building a passive solar home with a 4.4 KV photovoltaic system. In 2016, they purchased a small and very light camper called a Cricket.

"We chose that camper for fuel conservation reasons," said Susan Keesee. "We did not want to consume more fuel towing the camper than we did towing our sailboat. Now, we are enjoying more trips outdoors, particularly when it is a vacation that can include our dogs."

"We made choices in our lives that we believe help future generations," added Dave Keesee. "We hope the endowment will provide much needed support for undergraduate researchers to study and consider environmental sustainability in solving current challenges. They can create new knowledge for restoring and improving environmental quality for communities and making public policy to better guide decisions for the quality of life for people and animals."

The Keesees said partnering with the University Libraries to create the endowment intersects all colleges at the university.

"It was important to us that this funding benefits projects in which undergraduates could enrich their education by being turned on to research at Virginia Tech," said Susan Keesee. "As we reflected on this, the endowment is inter-disciplinary, like us, and feels more like seed money to help with discovery towards better sustainability."

"Through our participation on the University Libraries' advisory council, we have learned more about how the University Libraries serves today's students, staff, and faculty," said Dave Keesee. "We hope to inspire others to consider similar gifts to the University Libraries at Virginia Tech."

Tyler Walters, dean of the University Libraries and professor, has been appointed president of DuraSpace Board of Directors

WALTERS HAS SERVED on the board since 2013 and was appointed president in January 2018.

DuraSpace is a nonprofit organization supporting projects that provide long-term access and discovery of digital assets related to research and scholarship. By building international collaborations, it helps preserve and provide access to the world's intellectual, cultural, and scientific heritage.

"I'm honored to support and guide DuraSpace as its board president. This organization is critical to an international base of research institutions that are deploying open technologies in the institutional and research assets arena," said Walters.

Walters currently serves on the boards of DuraSpace, the Educopia Institute, and the Academic Preservation Trust. He is a 2009-10 Leadership Fellow of the Association of Research Libraries and past member of the Coalition of Networked Information (CNI) steering committee.

Walters is the Virginia Tech representative on the AAU/AAUP/ ARL TOME initiative (Toward an Open Monograph Ecosystem) and cofounded such organizations as the Library Publishing Coalition and the ACRL Diversity Alliance. Walters finished his term in 2017 as the founding director of SHARE, the Shared Access Research Ecosystem initiative, a joint undertaking of the Center for Open Science and the Association of Research Libraries.

Data Transformation Lab builds collaboration and enhances research

TAYLOR BLACKMAN, a second year master's degree student in Crop and Soil Environmental Sciences, gets excited about GIS. For a month this summer, he is camping out of his truck and studying vernal pools in the uplands of south central Pennsylvania—one of the only places in the ridge and valley area of the state where amphibians can breed.

Vernal pools are seasonal temporary pools that fill during the winter and spring, but may be dry during the summer. They are not easy to find in the forest due to their temporal nature, so Blackman follows game trails to locate this source of water for deer, raccoons and other forest creatures.

Blackman uses his GIS knowledge and skills to document the pools and compare their location and water levels over time. This project is a perfect example of Blackman's combined interests. "When I completed my undergraduate degree at Penn State in water science and GIS, I was looking for a graduate degree that let me combine field and computer based science. I found that at Virginia Tech," said Blackman.

As a navy veteran, Blackman receives Veterans Affairs educational benefits to assist with college costs and was awarded a \$5,000 grant from The Austin Excellence Fund for Veterans to support this summer's research.

However, he was interested in a part-time job during the academic year that used his GIS skills and research knowledge. He realized that the Data Transformation Lab in the University Libraries was a perfect fit. During the 2017-2018 academic year, he was one of the first graduate student workers in the lab and his contributions were immeasurable.

"I started as an hourly wage employee and provided assistance to faculty and students searching for data or just learning the GIS technology," said Blackman. "I received a request from a fellow graduate student who needed help in analyzing satellite imagery of isolated ponds in Arizona."

Mary Jade (MJ) Farruggia is a Ph.D. student and an Interfaces of Global Change Fellow in the Global Change Center at Virginia Tech. She is studying communities of desert amphibians and aquatic invertebrates in Southeast Arizona. Farruggia's research is somewhat similar to Blackman's vernal pool research.



The ponds are so small that the satellite images of them were too coarse to analyze. "She had the scientific paper and I had the understanding of the software to analyze the images," said Blackman. "Mary was the one that developed the methodology, and I helped where I could with the software. We came up with a way to look at the imagery at the subpixel level using ENVI software available in the Data Transformation Lab. It was really cool to help her out. What she was talking about in hydrology, I understood because of my own research. She also helped me find a new potential for my project."

Students working in the Data Transformation Lab include computer science, geography, statistics and soil science majors. Shane Coleman, data curator for the University Libraries and the coordinator of the Data Transformation Lab, says that this type of collaboration happens regularly in the lab that was initially created with the help of internal funding from the University Libraries' Beyond Boundaries Innovation Fund.

"Our original intent for the lab was to help researchers, and then it grew to include our expert students providing support services. This adds an educational component to our student workers' experience," said Coleman. "This is an experiential learning environment where our students will walk away with specific job skills and experience in working in interdisciplinary teams to solve problems."

Blackman says that working in the lab helped him build his interpersonal communication skills with those from other backgrounds and areas of expertise. "Many times our classes are homogeneous. This gives me an opportunity to learn from other researchers and apply my GIS knowledge and skills," said Blackman.

"What makes us successful is that we have people in here with different backgrounds who can help patrons articulate their needs in order to find solutions," said Coleman. "We have the expertise in technology to help them."

Digital exhibits fuel learning beyond campus

ONLINE COURSE AND COLLECTION exhibits make teaching and learning resources shareable worldwide, turning historical and academic achievements into evergreen digital content. In the University Libraries at Virginia Tech, digitizing educational materials offers learning engagement to anyone connected to the internet.

"The Active Learning Curation Program is a showcase of innovative teaching methods – an exhibit series of digital artifacts," said Alice Rogers, the program manager for the University Libraries' digital exhibit initiative. "The first project is comprised of videos, but I would like to expand future projects by creating entire websites. That way, people can interact with exhibit content when they visit the page."

Seeking Sustainability is the University Libraries' latest online exhibit. It showcases the instruction of geography assistant professor Timothy Baird's course, Geography 1115: Seeking Sustainability.

While working in the New Classroom Building in October 2017, Rogers noticed Baird's course in action; the room facilitated group discussion and interactive technology, similar to how the University Libraries' SCALE-UP and Athenaeum spaces encourage classroom interactivity.

"When I saw Dr. Baird's engagement in the classroom, I wanted to emphasize why it was effective," Rogers added. "I decided to interview him and his students so I could make videos explaining his methods and student responses to them."

This exhibit consists of seven YouTube videos that tell the Seeking Sustainability story, a course on local sustainability taught through open conversation, group participation, interdisciplinary engagement, multimedia learning, and critical thinking.

"General education classes can be a bit tricky because students come from such a diversity of majors and educational experiences," explained Rogers. "Seeking Sustainability brings students together to discover how a topic can be applicable across all disciplines. It focuses on social networks, justice, economics, and other aspects of life people normally do not think are relevant to sustainability."

Similarly, the University Libraries' Special Collections has produced several online exhibits that aim to bring the diverse Hokie community together to learn about the school's history, social impact, and research.

One of these exhibits, Black History at Virginia Tech, was first developed in 2000 and was re-released. This exhibit features the pioneers, events, outstanding achievements, and newspaper articles about the university's black community. It also describes the many firsts for black students, including the first 100 black graduates and the first black women to enroll.

The LGBTQ History at Virginia Tech exhibit, which went live in 2015, is an ongoing exhibit that chronicles the efforts of LGBTQ students on campus from the early 1970s onward.

"We have patrons and researchers scattered all over the world, so digital collections and exhibits are a great way to share some of our materials with people that might not come to campus," said Adrienne Serra, University Libraries technical archivist. "Digital exhibits offer the advantage of being able to pull together media in a variety of formats and allow users to interact with the exhibit in more interesting ways."

"Several of our other exhibits also incorporate mapping tools," said Serra. "We're able to plot geographical locations on the map and connect them to some of our digital objects, such as architectural projects or transcribed entries from Civil War diaries. Online exhibits allow patrons to interact with our collections in new and interesting ways that simply aren't possible with the traditional format of items sitting in a display case."



Alice Rogers shows one of her drawings used in an Active Learning Curation Program video



Visitors to the Black History Timeline see key moments and figures in Virgina Tech's history such as Jerry Gaines, the first black person inducted into the Virginia Tech Sports Hall of Fame



LGBTQ History at Virginia Tech exhibit features a timeline in which students access primary sources

Piercing the veil:

Engaging spaceflight through the Michael Collins papers

What would Neil Armstrong have tweeted in 1969 after he set foot on the surface of the moon? How would each of the astronauts from the Apollo 11 mission — Buzz Aldrin, Neil Armstrong, and Michael Collins — be described in a traditional, senior-superlative fashion in a fictitious 2017-2018 yearbook?

These are examples of some of the creative and critical works that students of Jared Gibbs, a faculty member in the Department of English, created in response to studying the Michael Collins papers in the University Libraries Special Collections.

Piercing the Veil: Engaging Spaceflight Through the Michael Collins Papers exhibit, which includes poetry, mixed media, critical reflection, and other responses by Gibbs' students, was displayed through May 2018, on the second floor of Newman Library as a part of the University Libraries' course exhibit initiative.

Special collections archivist Marc Brodsky has worked with Gibbs' class for several semesters and introduced students to the Michael Collins papers. "The best part about this project for me is the opportunity to work with students who do not have experience researching or exploring original documents," said Brodsky.

For example, Gibbs and Brodsky introduced the students to an original letter written by Charles Lindbergh to Michael Collins just after completion of the Apollo 11 mission. Lindbergh was the first to complete a nonstop solo transatlantic flight, and Collins was the first to complete a solo orbit around the moon. In the letter, Lindbergh speaks to the shared experience of the two flyers, each in his own realm and by himself, seeing a world as no one had before.

"What a fantastic experience it must have been — the first man alone looking down on another celestial body, like a god of space! There is a quality to aloneness that those who have not experienced it cannot know — to be alone and then to return to our fellow man once again," Lindbergh wrote in his letter to Collins. "You have experienced an aloneness unknown to man before. I believe you will find that it lets you think and sense with greater clarity. Sometime in the future, I would like to listen to your own conclusions in this respect," wrote Lindbergh.

"I'm here to introduce students to the power of primary source documents to inspire, surprise, or to fire one's imagination," Brodsky said.

"I'm constantly impressed by the responses I get from students both critically and creatively to the Michael Collins materials," said Gibbs. "The students get to experience research in a way that we usually don't anymore — without digital interfaces and the internet," added Gibbs.

The class assignment was to create a response to the original documents they experienced in Special Collections, which included newspaper clippings, personal letters to Collins, and written reflections by Collins.

This is the first time Gibbs challenged his class, Reading and Writing Across English Studies, to create their materials for a course exhibit in Newman Library. "The experience of preparing materials for display, of writing and thinking with a real audience in mind, allowed them to think about practical rhetorical concerns and matters of presentation and polish that can sometimes be difficult in a classroom setting," added Gibbs.

I'm here to introduce students to the power of primary source documents to inspire, surprise, or **to fire one's imagination**.

66_____

Marc Brodsky, Archivist





Course instructor Stephanie Voshell describes the exhibit to visitors

Undergraduate phage hunters showcase research in University Libraries exhibit

FROM LOCAL SOIL TO A GLOBAL DATABASE,

new viruses have been uncovered, analyzed, and recorded by undergraduate researchers in Virginia Tech's College of Science.

The University Libraries is showcasing achievements from the Phage Hunters course in the Department of Biological Sciences. The exhibit, located on the fourth floor of Newman Library near the Graduate Study Lounge, displays the Phage Hunters coursework, comprised entirely of undergraduate research that has impacted the biological sciences field at an international level.

"The Phage Hunters class gives each student ownership of their own phage discovery and research, something that is found in few teaching lab settings. Phage Hunters also gives students the understanding and skills to move forward in undergraduate research outside the classroom," said Kristi DeCourcy, one of the course instructors from the Fralin Life Science Institute. A phage, or otherwise known as bacteriophage, is a virus that infects and consumes bacteria. Phage therapy is becoming more widely considered as an alternative to antibiotics in treatment of bacterial infections. This class introduces students to the basics of discovering new phages and sharing their findings through public databases.

"Students in the Phage Hunters class discover a novel phage through wet-lab research and continue studying the phage at the genome level with bioinformatics," said course instructor Stephanie Voshell. "The ability to follow the same organism from discovery to genome publication is a unique opportunity that gives students experience with two very different, yet interconnected fields of research."

Visitors to the exhibit are able to walk through visual descriptions of the phage location and lab isolation processes, as well as see the equipment used by the researchers and photographs of each researcher's original phage.

Exhibit program manager and learning environments librarian Scott Fralin said the public research display can be inspirational for aspiring student researchers. "First, I think it can be inspirational to other students, especially undergraduate students, when they see that other undergrads are conducting real scientific research," said Fralin. "Second, I think it is important to the students conducting the research to have their work shown publicly. It adds another level of thought and preparation for the students when they have to prepare their work for a public audience instead of only for their professor and classmates," Fralin added.

"I came into the bioinformatic portion of the class, which was the second semester, never having done genome annotation before. So I learned a lot from that experience. It really gave me an appreciation for this process because of how complex it can be and the patience that it demands," added Williams.

The final reports of these annotations are then published in the Actinobacteriophage database at the University of Pittsburgh, as well as GenBank, a genetic sequencing database operated by the National Institutes of Health.

The Phage Hunters exhibit accomplishes interdisciplinary engagement by sharing the research of students in the biological sciences with the diverse library population of students, faculty, and community visitors.

The Phage Hunters exhibit will run through July 29, 2018.



A newsletter for friends of the University

Libraries at Virginia Tech

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