

SPRING/SUMMER 2021

IMAGINE

University Libraries at Virginia Tech Magazine

Sharing resources globally

Reducing barriers to learning

Illuminating environmental
preservation history



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TOOLS + EXPERTISE

When the Applied Research in Immersive Experiences and Simulations (ARIES) team set out to create virtual experiences, such as a 3D horse skeleton to be used by veterinary medicine students, they knew they couldn't rely on the technology alone. Their interdisciplinary expertise is what made it all possible.

Read about how this University Libraries team worked together while working from home to create impactful experiences for virtual learners.

» SEE PAGE EIGHT



Mapping color and depth data from 3D scans onto geometric mesh provides stunning detail in this horse skeleton.

Model by ARIES team.

Imagine

Spring/Summer 2021 Vol. 2, No. 1

Dear friends of the University Libraries,

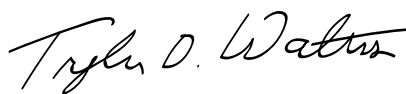
As we look forward to summer and take some time to recharge before the fall semester begins, we reflect on the difference Virginia Tech and the University Libraries have made on our past and current students, teaching and research faculty, and communities across the globe. I see this magazine as the Ut Prosim (That I May Serve) edition. Each story shows how the Library uses its expertise, creativity, and resources to serve and to promote service.

The stories you will read in this edition exemplify and reflect our challenges, successes, and aspirations and of our students, alumni, and colleagues across the university and beyond. One story describes how students are able to learn from challenges inherent in all-virtual collaborative work. Others touch upon how library faculty reach out to colleagues across the country to help researchers overcome data challenges or create freely available textbooks for students in a variety of disciplines. The new spotlight section shows how alumni use the expertise, experience, and memories they gained as library student employees to make a difference in their own way for their communities. And as you will see in the infographic about our collections and interlibrary loan services, the University Libraries provides access to informational resources for libraries and research centers across the country and the globe.

As Virginia Tech continues its work as a global land-grant university, the University Libraries will continue to contribute to that mission by providing the resources, expertise, and innovation needed to make a difference in the lives of Hokies, members of our communities, and citizens across the world.

Thank you for your interest in and support of the University Libraries. Together, we make a difference.

All the best,



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

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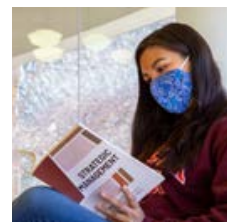
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Digital versions of Imagine magazine are available online at lib.vt.edu/magazine

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Photos: Students in ARIES by Phat Nguyen (top right), Student with Strategic Management by Trevor Finney (bottom right). Front cover by Trevor Finney.



Collaboration equips K-12 educators with virtual learning tools

By Elise Monsour Puckett

SNEAKERS SQUEAK against the gymnasium floor and the aroma of chicken nugget day fills the halls. Lockers slam closed, backpacks rustle about, and number two pencils scratch across loose leaf paper. These are the traditional sights and sounds for Floyd County Schools, but this year things are different.

While some students are still learning by attending school in a hybrid in-person and virtual format, the rest are learning only virtually due to the COVID-19 pandemic. The University Libraries at Virginia Tech was there to help.

Floyd County Schools, in collaboration with the University Libraries; the Science Museum of Western Virginia; and two Institute for Creativity, Arts, and Technology (ICAT) divisions, the Center for Research in SEAD (Science, Engineering, Arts, and Design) Education and the Center for Educational Networks and Impacts (CENI), received an Advancing Computer Science Education in Virginia Schools grant from Virginia's General Assembly. This grant supports the implementation of Virginia's Computer Science Standards of Learning into instruction with an emphasis on integrating computer science instruction and opportunities with a particular focus on underrepresented students. Most importantly, it will provide in-depth professional development

in digital literacy that will help teachers be more effective at integrating computer science into subjects like English.

This project is a result of intentional outreach and engagement with Virginia Tech's Center for Educational Networks and Impacts' (CENI) K-12 liaisons. The grant team includes faculty and educators from University Libraries, CENI, and Floyd County Schools.

The team set out to offer professional development opportunities for Floyd County teachers and librarians. Its goal was to support teachers in integrating computer science standards by building their digital literacy knowledge and skills through discussions in digital citizenship and making use of open educational resources.

Originally, the team also planned to offer student field trips to introduce eighth-graders to hands-on media creation and digital citizenship concepts, like online presence, audio production, and fact-checking information. The team also planned in-person conferences for the teachers with follow-up events. Due to the COVID-19 pandemic, team members quickly created an online summer course for teachers that focused on basic concepts in digital literacy as well as topics to support inclusive virtual teaching. This course helped Floyd County educators feel better

— “ —
This project allowed me to take digital literacy content ... and share it with audiences we've never reached before.

Kayla McNabb

Benefits of Creating an ePortfolio

- Document a journey
- Showcase skills and competencies tied to evidence
- Reflect on learning over time
- Make work visible to employers, peers, instructors



PASSWORD MANAGERS

- Do not save them in your browser; it's not a password manager.
- How do password managers work?
 - Stored securely on your device and server
 - Secured in transit
 - Locked with Master Password
 - Use app or extension to auto-fill and generate passwords

Screenshots of lessons from the modules "Online Identity" and "Privacy and Security Online."

prepared to participate in conversations with students around digital literacy. The team plans to work with the teachers and librarians to identify ways this information connects to their computer science standards.

"I got involved with this project because of my experience with digital literacy education," said Julia Feerrar, University Libraries' head of digital literacy initiatives. "Many of the topics in Virginia's Computer Science Standards of Learning, such as cybersecurity, privacy, and the social impacts of technology, connect directly to digital literacy. A lot of my day-to-day work involves teaching digital literacy lessons as well as collaborating with other instructors. I was excited to bring these experiences to working with local teachers."

The course is for teachers focused on concepts and decision making for online learning. The course was divided into three modules: Introduction to Digital Literacy and Online Identity; Best Practices for Digital Teaching; and Developing and Sharing Open Educational Resources. Throughout these modules, teachers learned about online presence, privacy, security, multifactor authentication, secure browsing, accessibility, student identity, inclusive teaching practices, and open educational resources. Teachers also learned how to use online tools like Canvas, which they are now employing for their own virtual teaching, and the #GoOpenVirginia platform, which is a place for teachers to share and adapt

lessons. Many teachers had little to no experience with these platforms before the course, and this experience helped participants better understand how students would move through these virtual spaces.

"Throughout my time in higher education, I've been really interested in ways that I can help educators of all types better meet students' needs, whether that be through providing them high-quality resources through Odyssey, our open learning objects repository, or through guest lectures and workshops," said Kayla McNabb, University Libraries' head of instructional content and design. "This project allowed me to take digital literacy content that I've developed in collaboration with University Libraries colleagues and share it with audiences we've never reached before."

Integrating digital literacy lessons across the curriculum and fostering students' skills in these areas are challenging for teachers. This collaboration helps K-12 teachers and library faculty alike. "It is really exciting to be able to connect with other educators, to share what we've learned, and to learn from their experiences as well," said Feerrar.

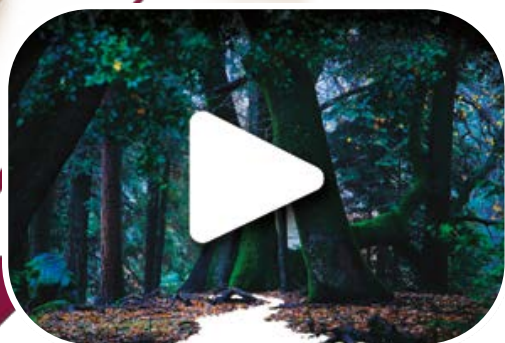
This program is a way for the University Libraries to connect with and serve the region. "Working in the University Libraries gives us the opportunity to bridge the academic library with public libraries and helps us see how the two are so connected," said McNabb. "Digital literacy and basic computer science skills are so integral to students' success, whether we are talking about sixth-graders in Floyd County or sophomores at Virginia Tech."

Craig Arthur, University Libraries' head of community engagement, is integral to the student-engagement piece of the project. Arthur, who is highly experienced in teaching media literacy to K-12 students, says his passion is working to engage the University Libraries with the broader community. "This grant is evidence that the University Libraries is shifting our focus," said Arthur. "As a result of years of intentional collaboration and guidance from our campus and community partners, especially VT Engage, the University Libraries is offering more programming for those in the community that we have underserved."

Although the project's plans took a different direction due to the pandemic, the team will continue to explore options to not only help teachers but also work with students on topics relating to their computer science standards in engaging ways. The team would love to share these resources and teaching tools with other educators, departments, schools, and school districts who might be interested in having their teachers and librarians work through this content for virtual learning. ■



VIEW THE MODULES
bit.ly/vtulteachertools



Living literature through gaming

By Elise Monsour Puckett

PICTURE A NUT-BROWN FOREST with an emerald creek running through it. The smell of the wilderness is pulpy and the tinkling sound of the brook gurgles and slaps where the water meets stone. Twigs crunch beneath our feet, and up ahead, small animals snacking on acorns startle and scamper away.

The trees suddenly part way and a deep haunting overcomes us.

What towers over the woods and steps forward is not your usual imaginary monster, dreamt up by children. It is impossibly big with curving horns and a crusty exterior, stitched together like tattered patchwork. Its skin, loose and askew, left us to wonder what would happen if the leather thread, holding the beast together, were to unravel. Two eyes stare down and the ferociously magical beast softly caresses the side of its harmless but loathsome face with the back of its hand.

This is an example of how a gamemaster sets the scene for a role-playing game (RPG) on the University Libraries at Virginia Tech's new Twitch channel.

The University Libraries is introducing a new way to experience literature like never before. Patrons can now discover and explore books through gaming along with other innovative content the library is producing. Featuring library hit shows, *The Role of Play* and *Archival Adventures*, the Twitch stream immerses people in stories and history with an emphasis on learning through play.

After the stage is set, players decide on their character's personality and goals, sometimes creating unique voices and catch phrases for their characters to help define when they are speaking in character or when speaking to the other players. Role-playing games allow players to embody another personality for a while in a fun way, engage in creative storytelling with others, and respond in dynamic situations that are unfolding before them.

Jonathan Bradley, head of studios and innovative technologies; Anthony Wright de Hernandez, community collections archivist; and Alice Rogers, manager of Media Design Studios of the University Libraries, are spearheading this new endeavor along with several other people from around the library. Bradley, who holds a doctorate in English literature and has published research on the pedagogy of using role-playing games to teach literature, serves as the gamemaster of

many of *The Role of Play* sessions, explaining and enforcing the game's rules and serving as the primary narrator.

Wright de Hernandez and Rogers also have similar roles in the project, which change depending on the episode. "The roles that we have for this channel are very fluid," said Rogers. "Most of us have served in a number of roles, such as playing, producing, chat moderator, and acting as gamemaster."

"Educational streaming is a growing tag on the platform," said Rogers. "We are able to bring visibility to the work that the University Libraries does while also connecting with people from around the world."

Twitch, an Amazon company, is a live-streaming platform for gamers. Twitch streamers broadcast their gameplay by sharing their screen with viewers, including millions of devoted gamers. Users can watch them in real-time from anywhere around the globe and can chat, interact, and make their own entertainment together. The platform is primarily used for live-streaming games but the site has a wide range of other topics for anyone interested in other subjects like science and technology, making, coding, art, music, cooking, and podcasts.

The University Libraries at Virginia Tech is the second academic research library with a dedicated Twitch channel. "The type of programming we are doing, literary one-shots, is unique," said Bradley. "We hope to use the platform to promote the University Libraries and the work we do by meeting students where they are — on this platform. It also widens the audience for our work. Twitch is both a popular and low-barrier platform for people to access content."

The team has produced episodes featuring the light-hearted works of *Alice's Adventures in Wonderland* and a *Winnie-the-Pooh* honey heist as well as darker stories like "The Sheep Look Up" and "The Open Boat." They've also delved into the world of graphic novels like "The Sandman." In upcoming sessions, they will be diving into "The Adventures of Sherlock Holmes" and Dante's "Inferno," as well as airing their first sequel based on "Through the Looking Glass, and What Alice Found There."

"Tabletop role playing games encourage participants to embody and experience the important themes that come up in a story in a way that feels more personal," said Rogers.



Staff, faculty, and student players co-create an imaginative world based on Alice in Wonderland during an episode of "The Role of Play." Screenshot of The Role of Play.

An upcoming series on the channel will feature prototyping once the new University Libraries Prototyping Studio opens. The team also plans to incorporate library workshops on the platform, and host live demos of various pieces of software.

The team uses innovative technology to aid in producing their Twitch episodes to ensure fans have the best viewing experience. Much of the technology such as webcams, Blue Yeti microphones and headsets, and higher-end laptops are available through the Library's Media Design Studio A. The Media Design Studios can also help with free and open source software as well as provide consultations on running live events.

"We encourage patrons to borrow a camera, test a microphone, 3D print a model, or put on a VR headset to learn about the hardware and software we support in the Media Design Studios, and learn through the process of using it," said Rogers.

The first episode of The Role of Play aired last October. The team adapted to a remote experience and learned new technologies that facilitate remote streaming better than solutions like Zoom, which are great for meetings but provide subpar video and audio for live streaming. The team is excited for a time when they can incorporate in-person sessions as well, which will help make participating in the stream more accessible.

"Without the pandemic, the Archival Adventures show probably wouldn't exist," said Wright de Hernandez. "Before the pandemic, I regularly shared archival materials as exhibits in the library or in class presentations. Over the last year, I was looking for ways to share our Special Collections & University Archives materials remotely and found a middle school librarian who was reading poetry on Twitch. Seeing her show made me reconsider what content would work on Twitch and led me to develop Archival Adventures."

University Libraries' Special Collections & University Archives provides a look at unique and rare items that are featured on Archival Adventures. "For this show, I pull materials from Special Collections & University Archives

and explore them live while talking about the materials with whoever is in the chat," said Wright de Hernandez.

The Twitch team is seeking collaborators. Volunteers from around the university, the community, and from other libraries can take on fun roles such as players, gamemasters, producers, and play testers. The team encourages anyone who likes gaming and literature to reach out and become involved.

"If you aren't sure how to play or be involved, we can teach you," said Bradley. "We want to make the channel more diverse and explore works of literature from around the world. We need your help!"

The team says recruiting volunteers during a pandemic has been difficult. So far graduate and undergraduate students, faculty, librarians from other universities, and a teacher from a local school system have volunteered. The team wants to engage and feature more students and Virginia Tech partners from outside the library and especially wants to give space on the channel for people of color and members of the LGBTQ+ community.

"Twitch, for me, has been a great way to find community and connect with people around the world," said Wright de Hernandez. "Being able to engage with people from anywhere is a big part of why I love working on the Twitch channel. When I go live, I never know whether I'll be engaging with a student on campus or a viewer from across the globe. It also lets me use some of my long neglected skills in theatrical production while exploring new technologies. It's an enjoyable experience for me that fuses many of my interests together." ■

Check out the Twitch channel for yourself and become involved!



COME HANG OUT & SEE
twitch.com/vtulstudios



WORKING THROUGH CHALLENGES WORKING

virtual experience-based learning leads to lessons learned

By Ann Brown

EVERY WEEK, student employees in the University Libraries' Applied Research in Immersive Experiences and Simulations (ARIES) program and their faculty mentor, Todd Ogle, brainstorm in the virtual meeting checkerboard many remote professionals are now used to. Despite the challenges of remote work, they have continued their immersive and virtual reality technology research and projects throughout the pandemic.

Projects like creating a virtual learning tool for veterinary medicine students and building innovative spaces with diversity in mind haven't missed a beat. Students, such as School of Visual Arts' creative technologies major Brady Blauvelt, have been able to successfully transition to all virtual work while learning new collaboration skills, time management practices, and resiliency along the way.

"Luckily, the pandemic hasn't affected us as much as we initially thought," said Blauvelt. "Being that most of our work is on the computer, we have been able to continue our work remotely. If we need to do something on the personal lab computers, we actually have options for that as well. Virginia Tech and Todd Ogle have helped us set up a computer program, which lets us remote access to our lab computers. This gives us instant

access to the lab from anywhere we can connect to the internet."

ARIES employs more than a dozen students from a variety of majors in the College of Science, College of Engineering, College of Liberal Arts and Human Sciences, College of Architecture and Urban Studies, and College of Natural Resources and Environment. The program prepares students for the workforce with hands-on, experiential learning opportunities in immersive environments development, gaming for entertainment and learning, evaluation, visualization design, and simulations.

Blauvelt's current project is a collaboration with the College of Veterinary Medicine to create a unique desktop computer application to help veterinary medicine students learn horse, dog, and cow anatomy. Students can use their computer to explore the models and study their bone structure and accurate organ placement. The tool replaces a traditional physical model that wears over time and offers a quizzing feature directly in the model.

"I find this project really interesting because it allows students in the classroom to learn like never before. I have heard stories about the different parts of the physical model developing holes or cracks over time. This affects the students' ability to learn accurately,"

Above: A virtual plaza, complete with presentation stage, created by Zac Kim in collaboration with the Ujima Living Learning Community.

Below: Zac Kim's avatar inside one of six meeting rooms within the virtual environment.

Right: ARIES students review over Zoom a 3D model of a horse skull in Pixologic ZBrush.



said Blauvelt. “Using our program, we can ensure that the model is always pristine, while allowing each student to have their own private viewing.”

Creative technologies major and ARIES student employee Zac Kim is working on web-based virtual reality spaces for the Re-Imagining diVersity initiative at Virginia Tech to create innovative spaces with diversity in mind.

“We have recently partnered with the Ujima Living Learning Community to create virtual spaces with the goal of illustrating the Black student experience here at Virginia Tech,” said Kim. “I have been working on this project since [spring 2020], and I’m very passionate about it. Not only does it utilize an especially potent form of virtual learning during this time of quarantine, but it takes technological exploration and orients it with an inclusive mindset.”

The students’ lessons learned include technical knowledge and a smattering of communication and collaboration skills.

“The biggest thing that I’m learning is being a part of a diverse team,” added Kim. “As a creative tech major, I am accustomed to being the sole director, animator, and producer of my personal pieces. However in ARIES, we are constantly interacting and working with people across departments. Engineers, computer scientists, artists, historians, and enthusiasts are all wrapped up in a single lab. This departmental mixing has been extremely educational.”

Both Kim and Blauvelt admit that working remotely through the pandemic has its challenges. They say Zoom fatigue is real, and they miss the face-to-face in-person interaction that fuels creativity and collaborative learning.

“Before, I could walk into our lab and be able to connect and get feedback from my peers,” said Blauvelt. “Changing to online learning has taken that aspect of personal connection away from us. That being said, as a group we consistently meet each week online to not only discuss our project, but also about what is going on with our lives.”

ARIES Executive Director Todd Ogle, said that he has encountered challenges as well, but also learned some valuable lessons for engaging students.

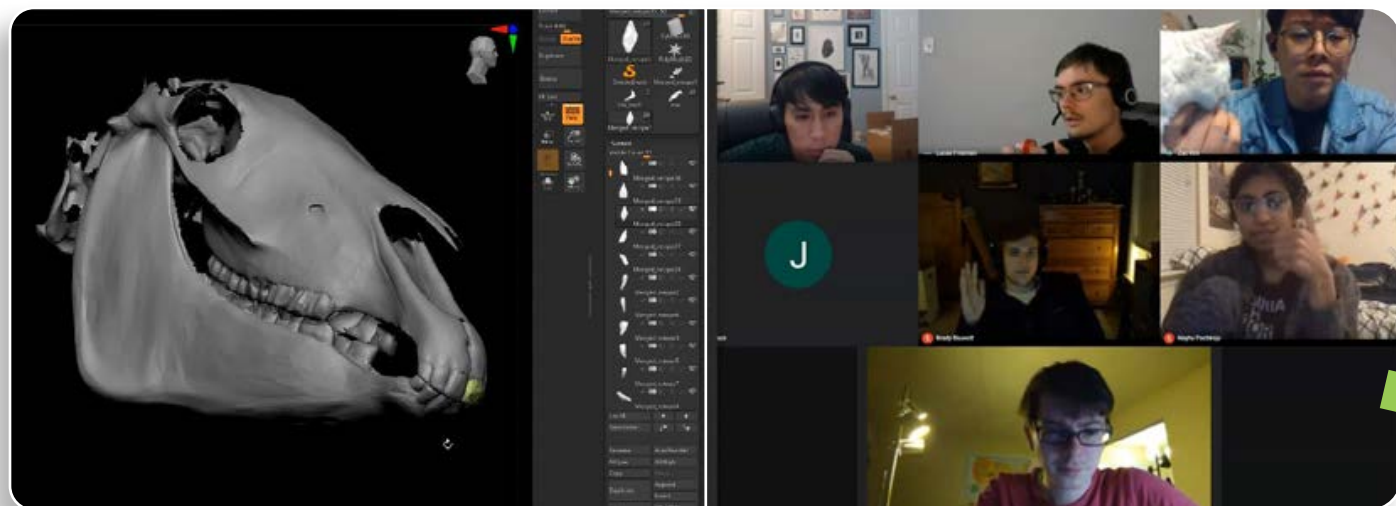
“We have always worked with remote collaborators, both domestic and in Europe, so holding meetings where at least part of the team is online is not unusual,” said Ogle. “But I am a hands-on, big-tent person, so not being able to spend time with my students in person is frustrating. It has been more challenging than I expected to integrate my new students, and I didn’t get to say goodbye to my graduating seniors in person. But I have learned one valuable lesson in remote work; identifying a project that a large cohort of them can get into together helps to form the team bonds that we usually get from our time in the studios together, so I’ll take that lesson with me.”

Students have persisted and created projects that are pushing the boundaries of virtual and immersive technologies. Bringing the group’s varied expertise to play on interdisciplinary projects continues to fuel their academic passion.

“To be able to work with such a diversity of majors is super exciting to me,” said Kim. “Innovation is another large contributor. The ability to be on the forefront of technology and be surrounded by people who are excited and curious about it is great. I am always hungry for another challenge and searching for a new skill to learn, so my time in the lab has been wonderful as it satisfies a bit of that hunger.”

Because of these hands-on, minds-on experiences in ARIES, these students will be ready for whatever their professional future holds.

“I know that ARIES will really help me no matter what job I go into. The work I complete in ARIES is real professional work. Showing these types of projects on my website or speaking about them within interviews shows a certain maturity in how I work,” said Blauvelt. “I also know that wherever my future takes me, I will always have to work with others. ARIES has introduced me to so many different people from diverse backgrounds. I really think this has prepared me to work with and understand others, no matter who they are.” ■



Bringing digital literacy to Nepal

exhibit showcases student work in international service

By Elise Monsour Puckett
and Sweta Baniya



Students in Nepal participating in a digital literacy workshop conducted by Code for Nepal. Photo provided by Code for Nepal.

VIRGINIA TECH Assistant Professor of English Sweta Baniya strives to encourage her students to follow their passions and create things to be proud of. And that's exactly what they did.

Embodying Virginia Tech's motto, *Ut Prosim* (That I May Serve), and the Principles of Community, Sweta Baniya's English 3814 class, *Creating User Documentation*, presented an example of this motto in action, by thinking locally and serving globally.

The University Libraries newest virtual exhibit, *Ut Prosim Beyond Boundaries: Global Outreach During the Pandemic*, shows how an online service-learning technical writing class served rural communities in Nepal during the COVID-19 pandemic. Inside this exhibit, visitors will discover the steps students took to enhance digital literacy in Nepal in collaboration with international grassroots-level organization Code for Nepal. This exhibit reveals the experiences and work produced by the students including student reflections on international service learning during a pandemic.

This exhibit is curated by Baniya; Scott Fralin, exhibits program manager for Learning Environments in University Libraries; and Laura Gautier, a secure computing major.

The COVID-19 global pandemic forced people across the globe to change how they work, teach, and learn. Developed countries quickly transitioned to a whole new digital landscape. However, for some rural populations in Nepal, this was not an easy transition to make, due to lack of access to the online world and lack of knowledge of digital products. They needed help.

"It was shocking for a lot of the students to even know that such a digital divide exists in the world and that drew their

interest in working towards minimizing such a divide as it helped them recognize their own privileges," said Baniya.

In Fall 2020, during the height of the COVID-19 pandemic, Baniya and her students collaborated online with Code for Nepal, an international, non-profit, community-based organization that works to enhance digital literacy among women in rural Nepal's marginalized population.

"Students got to help a community alongside learning a skill set that counted toward their degree," said Gautier. "At the same time, the community being served is benefitting from the students' work. This creates a mutually beneficial relationship between the two. I had more drive and passion for what I was creating because I met the people it was for. It wasn't just an assignment that would be stored away on a drive."

The purpose of Baniya's class was twofold: to fulfill the learning outcomes of the class on preparing audience-centered documentation in varied environments and to calibrate this documentation for rural Nepali audiences to support Code for Nepal.

Fralin who designed, coded, and helped shape the story of the exhibit said, "We wanted to tell the story of how a technical writing class was able to respond to the realities of the pandemic and help a community in need at the same time using a service learning approach."

The class brainstormed ideas, thinking locally, where they critically thought about their own community, their family, elderly relatives, or their young siblings, all who were struggling due to the digital divide created by the pandemic. They also addressed the issue of digital literacy by exploring the cross-cultural issues of social injustices

regarding gender, race, languages, and cultures. Research showed that the digital literacy rates in Nepal are a staggering 31% and Nepal is experiencing a recent increase in cyber crime due to the pandemic.

Together, the students created a wide range of innovative materials to help including mobile applications, user documentation, instructional videos, and website prototypes that were designed to tackle cyber bullying and harassment among young girls in Nepal.

"It is great for students to know that they, within their classrooms and via their computers, can serve communities in need," said Baniya. "And that they are not just the learners but also the experts."

Gautier's student role in the project was to write the story of her experience in the course, assist the overall design and brainstorming for the exhibit, and find quotes from students' final reflections to be used on their class website. Additionally, Gautier produced written and video documentation on how to recognize and report Gmail phishing scams and worked in a group to create their website that served as a centralized source of all documentation created in the course.

"My class was given the challenges of the pandemic and still managed to engage and serve an international community," said Baniya. "My students and I moved beyond boundaries to

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It is great for students to know that they, within their classrooms and via their computers, can serve communities in need...

Sweta Baniya

connect with the global communities and took up the challenge put forth by the pandemic and helped the communities in need."

As a teacher, researcher, and scholar-activist, Baniya tries to apply her research and teaching in serving the community. "Research-wise, I study disasters and know how community activists help in disaster recovery," said Baniya. "This class is preparing my students to become community leaders."

Gautier also felt moved and passionate about the project. "I found myself pushing to improve my work with any given opportunity," said

Gautier. "I was reading my feedback on rough drafts more attentively and researching more thoroughly because I knew that someone would want or need to use what I created. I didn't want to let these people down or give them something that wasn't as good as it could've been. Service-learning means a lot to me. I was given the opportunity to improve myself through learning and service simultaneously."

Baniya, a native of Kathmandu, Nepal, has been partnering with Code for Nepal since 2018 in service-learning projects and currently serves in the organization as an advisor. It was important to her to give back to where she came from as well as where she currently calls home, Blacksburg, Virginia.

"I am invested in bringing to light the unique aspects of the global culture that are often overlooked, ignored, underrepresented, or misrepresented," said Baniya.

"This online exhibition is the perfect example of the College of Liberal Arts and Human Sciences' (CLAHS) global outreach commitment to empowerment," said Farida Jalazai, associate dean of Global Initiatives and Engagement. "I am so proud of the work Dr. Baniya has been doing with her students here at Virginia Tech and with Code for Nepal. The exhibit is absolutely stunning!"

In addition to community, providing students with exposure to international engagement is important to Baniya as a professor. Many students may not have enough funding, time, and resources to participate in study abroad programs. This class removes those barriers and provides experiential learning to the students as they interact with an international community.

"Helping another community is an involved, but equally rewarding process," said Gautier. "Although it may be intimidating to serve a community on your own, service-learning courses assist by giving you guidance and feedback along the way."

"Ut Prosim Beyond Boundaries: Global Outreach During the Pandemic highlights the critical role of professional and technical writers who are invested in responding to social problems and supporting the needs and concerns of the community," said Jennifer Sano-Franchini, director of the professional and technical writing program in the department of English. "It is also a wonderful example of how professional and technical writing provides hands-on, experiential learning opportunities that can enhance students' understanding of what it means to write within a global, intercultural context."

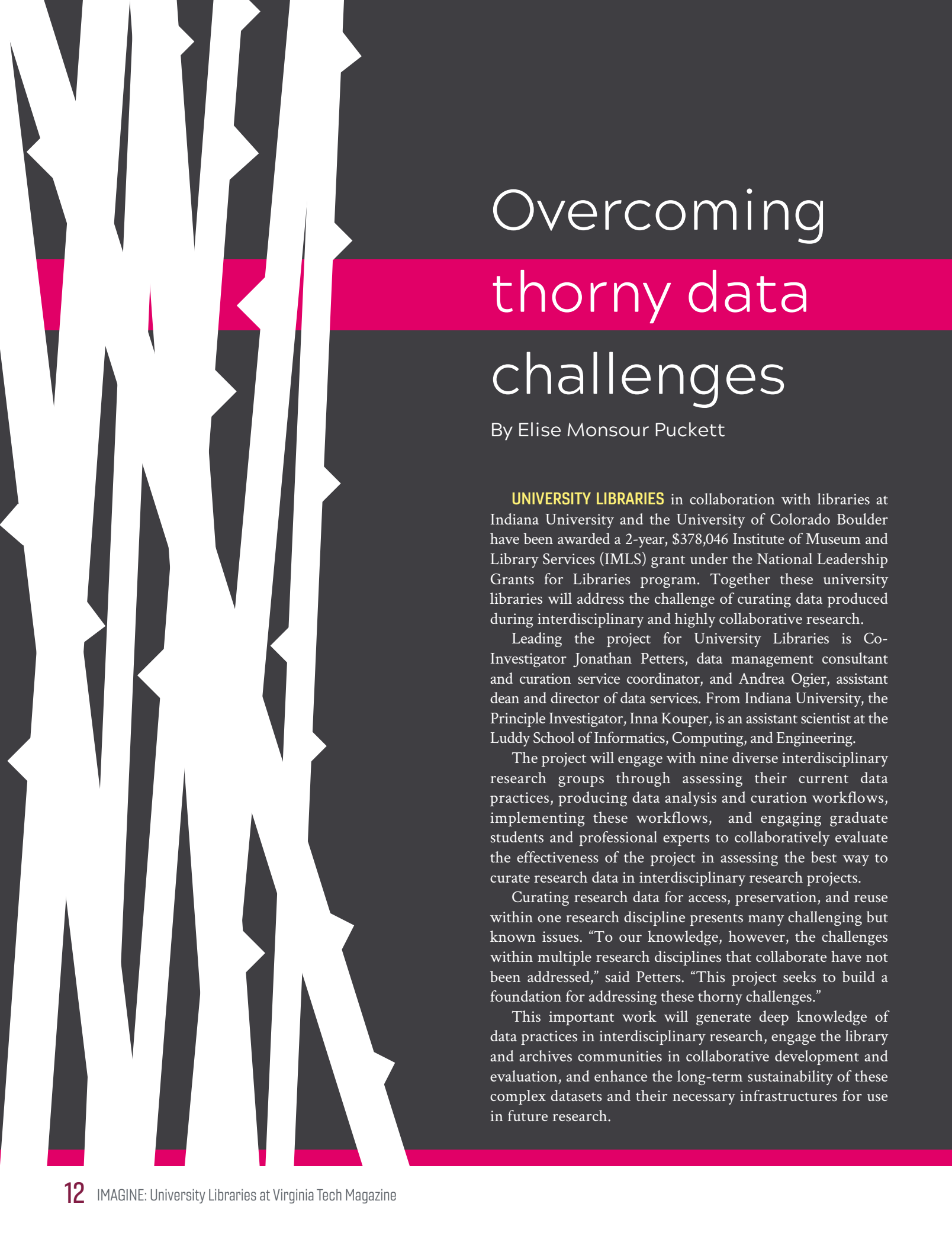
In addition to creating and designing the virtual exhibit, the University Libraries also played a key role in digital literacy. "This exhibit is a great example of how University Libraries keeps pushing towards digital literacy," said Baniya. "I even used the University Libraries' Digital Literacy Framework in my class which was a great teaching and learning tool."

"The story of this exhibit shows that any class at the university has the potential to make an impact on the world," said Fralin. "You might not think that when looking at a class called Creating User Documentation but you should not judge a book by its cover." Fralin says the work the students did demonstrates how you can have a real-world impact from inside the classroom..

"Through my exhibits, I love to help tell the stories of the amazing work that happens behind classroom doors, one class at a time," said Fralin. ■



VISIT THE EXHIBIT
exhibits.lib.vt.edu



Overcoming thorny data challenges

By Elise Monsour Puckett

UNIVERSITY LIBRARIES in collaboration with libraries at Indiana University and the University of Colorado Boulder have been awarded a 2-year, \$378,046 Institute of Museum and Library Services (IMLS) grant under the National Leadership Grants for Libraries program. Together these university libraries will address the challenge of curating data produced during interdisciplinary and highly collaborative research.

Leading the project for University Libraries is Co-Investigator Jonathan Petters, data management consultant and curation service coordinator, and Andrea Ogier, assistant dean and director of data services. From Indiana University, the Principle Investigator, Inna Kouper, is an assistant scientist at the Luddy School of Informatics, Computing, and Engineering.

The project will engage with nine diverse interdisciplinary research groups through assessing their current data practices, producing data analysis and curation workflows, implementing these workflows, and engaging graduate students and professional experts to collaboratively evaluate the effectiveness of the project in assessing the best way to curate research data in interdisciplinary research projects.

Curating research data for access, preservation, and reuse within one research discipline presents many challenging but known issues. “To our knowledge, however, the challenges within multiple research disciplines that collaborate have not been addressed,” said Petters. “This project seeks to build a foundation for addressing these thorny challenges.”

This important work will generate deep knowledge of data practices in interdisciplinary research, engage the library and archives communities in collaborative development and evaluation, and enhance the long-term sustainability of these complex datasets and their necessary infrastructures for use in future research.

The University Libraries will be working with three interdisciplinary Virginia Tech-based research projects:

- ◆ Specialty Crops Research Initiative (SCRI)
- ◆ Disaster Resilience and Risk Management - Interdisciplinary Graduate Education Program
- ◆ Coastal Hazards @ Virginia Tech

The project is in preliminary stages and the next steps are to meet and learn about the processes and challenges of interdisciplinary data curation. “We will do that through what we call a deep dive, a series of semi-structured interviews with team members to learn about their data work,” said Kouper. “Then we will take what we have learned and work on additions and improvements, both manual and automated, aimed at streamlining the researchers’ work with data.”

— “ —
This project is another step in helping the research enterprise to move towards this new world.

Jonathan Petters

The research teams will be trying out what they learned in their daily work and will be documenting what works and what does not. Another important component of this project is collaborative evaluation where the group will engage a broader community of experts in the evaluation of their work and use input to improve their recommendations. “In this we are partnering with several data organizations and faculty from library and information science schools,” explained Kouper.

University Libraries’ experts in data and curation are ready to help Virginia Tech researchers make their research data accessible. This includes publishing their data in University Libraries’ research data repository, a platform for highlighting, preserving, and providing access to work generated by the Virginia Tech community.

Making research data widely accessible and reusable to other researchers and the general public will increase the robustness, integrity, and transparency of scholarship. “It can allow for new methods and areas of research to open,” said Petters. “This project is another step in helping the research enterprise to move towards this new world.” ■

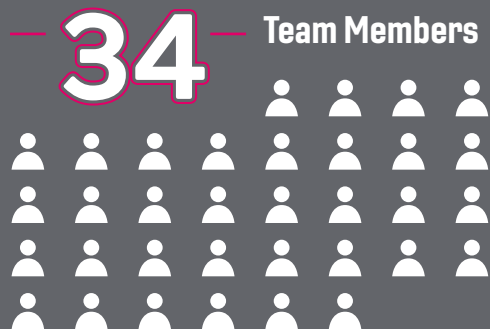


Andi Ogier (left) and Jonathan Petters (right) outside of Newman Library. Photo by Ann Brown.

Collections are the backbone of the Library

By Trevor Finney

The Jean Russell Quible Department of Collections and Technical Services provides print and digital resources to all of our learners, educators, and researchers. The collections and technical services team makes the complex work feel simple and keeps our community powered. Here are few **snapshots** of how they're meeting the needs of our patrons in an ever-changing world.



WITH EXPERTISE IN:

- Acquisition • Collection Management, Strategy, Processing, and Assessment • Data Analytics
- Metadata • Borrowing & Lending



Student worker Abby Parker prepares Interlibrary Loan books to be shipped to a partnering institution. Photo by Trevor Finney.

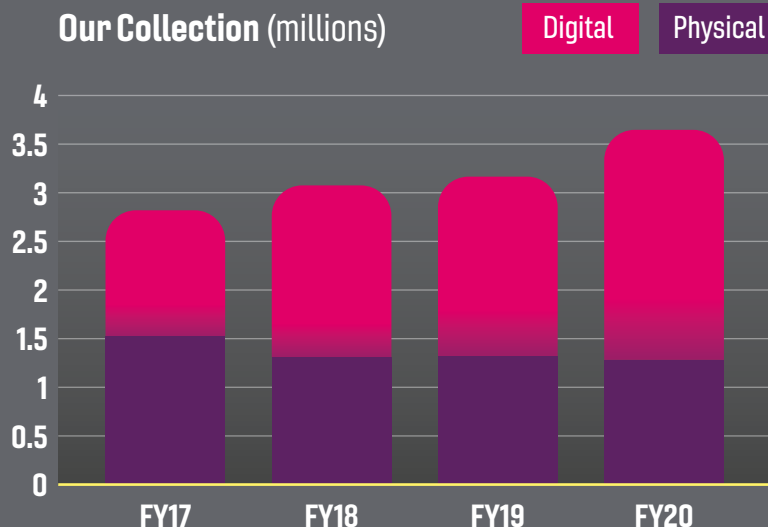


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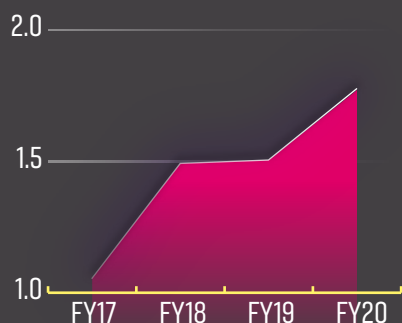


What our users are saying

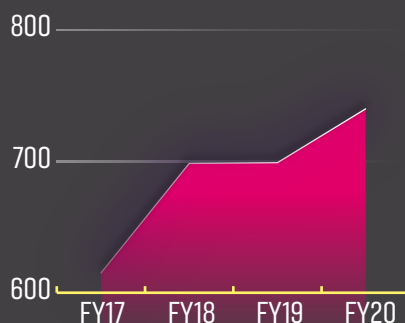
- "I wanted to say that Interlibrary Loan has been amazing during COVID. So thankful for all you do." - **Melissa Ripepi**, Graduate Student, Sociology
- "You have absolutely no idea how much I appreciate how quick this went through." - **Cora Carman**, Graduate Student, Aerospace/Ocean Engineering
- "I received the rush article within 10 minutes of placing the order. Really great customer service. The physician just texted me that he is in receipt of the article. Kudos to you and your team for the quickest turnaround ever! Your turnaround time is simply amazing." - **Rita McCandless**, VTCSOM Librarian
- "For a meta-analysis, I needed access to some 200 articles not in the VT library. I worked with business reference librarian, Ellen Krupar, who helped me secure copies through Interlibrary Loan. It was a quick process and staff at Interlibrary Loan was very quick in getting the articles; a few days at most. For individual articles it is rare to wait for more than a day. Often the article is available within a few hours." - **Florian Zach**, Assistant Professor, Howard Feiertag Department of Hospitality and Tourism Management

eResource growth and use

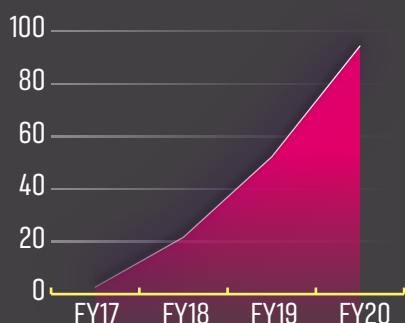
eBook Titles (millions)



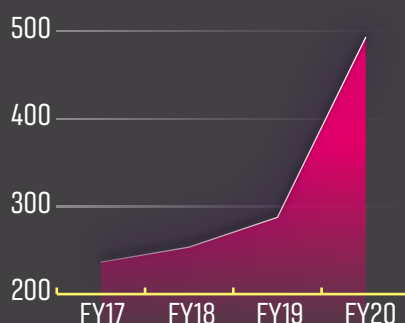
Databases



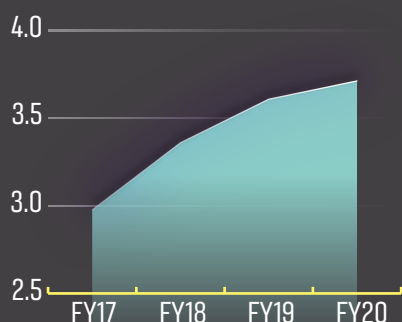
Streaming Media (thousands)



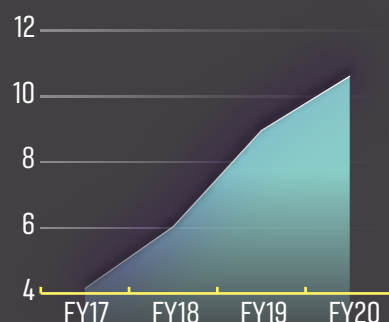
eJournal Titles (thousands)



Journal Downloads (millions)



Database Searches (millions)



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We make

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dissertations
electronically
available to the
world!

Since 2012, the collections processing team has scanned almost 7,200 Virginia Tech theses and dissertations into the VTechWorks database. These titles, from 1996 and earlier, were previously only available through print.

Stacked together, the more than 850,000 scanned pages would be as tall as a **20 story building!**

**eJournals represent
over 50% of our FY20
collections expenditures**

Read more about why **access matters** and how the University Libraries is working to meet the need at: lib.vt.edu/oa-big-deal

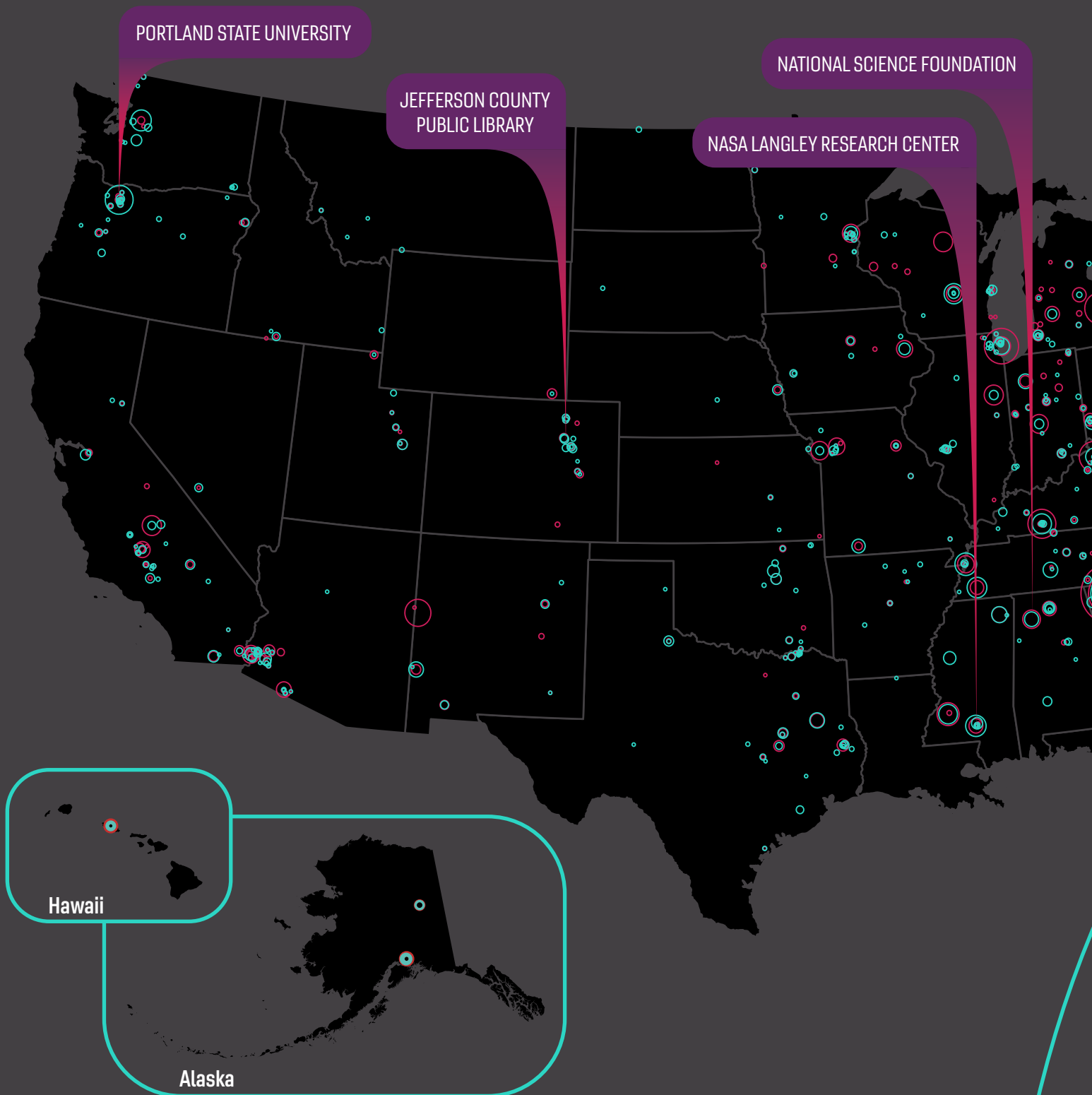






Databases
eBooks
All other categories

The Interlibrary Loan team contributes to a global network

By Juliette Good, Kim Noh, and Trevor Finney

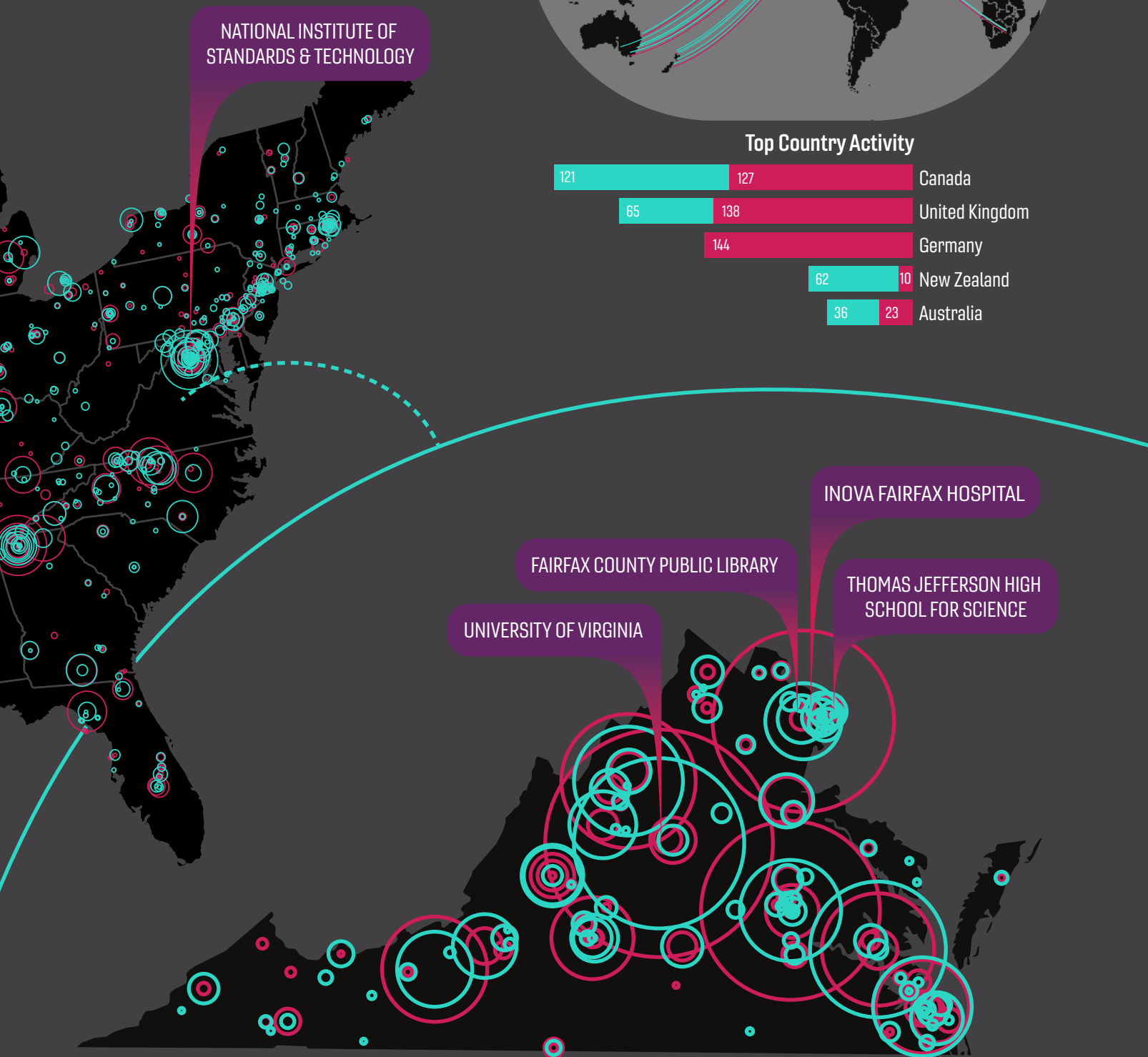
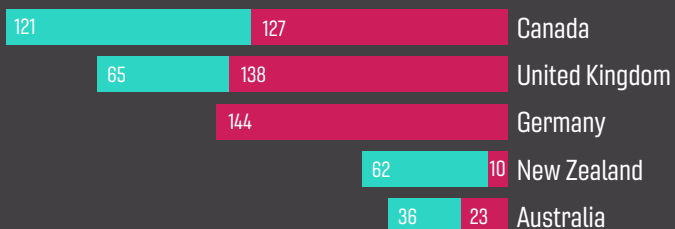
This map offers a snapshot of the University Libraries lending and borrowing activity across Virginia, the U.S., and the world from July 2018 - February 2021. The nearly **50,000** lendings and borrowings, across almost 1,500 institutions, keep our researchers connected and supported.



-  Lending
-  Borrowing
-  Relative volume
-  Highlighted places we lend to



Top Country Activity



Virginia



Reducing barriers to learning



FOR MANY COLLEGE STUDENTS, the cost of textbooks can be an insurmountable challenge. Thanks to the open textbook movement, which focuses on the creation and use of books that are openly licensed, free, and editable, students are increasingly able to obtain high-quality educational resources at no cost. The University Libraries at Virginia Tech is committed to the open education movement and is engaged in creating and promoting open textbooks and other open educational resources with Virginia Tech faculty authors.

“Course materials have become quite expensive. Many students are already priced out of being able to afford to purchase and retain certain course materials and have to navigate decisions regarding whether or not they will even try to access course material. This directly affects student learning,” said Anita Walz, University Libraries’ assistant director for open education and scholarly communication librarian. “Also, open educational resources are customizable, so instructors have permission to add additional worked examples or change the sequence of a text to better fit the course.”

Since 2016, the library and Virginia Tech Publishing have published 10 open textbooks. Two of the most recent are “Introduction to Biosystems Engineering” and “Strategic Management.”



Strategic Management

By Jeremy Norman



MEMBERS OF THE MANAGEMENT DEPARTMENT in the Pamplin College of Business have coordinated with Anita Walz, assistant director of Open Education and Scholarly Communication librarian, to make a management degree more affordable. And they've done so, recently releasing Virginia Tech's adaptation of "Strategic Management" as an open textbook.

"Strategic Management" is a 343-page textbook designed to introduce key topics and themes of strategic management to undergraduate students in a required senior capstone course, MGT 4394 Strategic Management.

"Textbook prices are already very high and continue to rise," said Management Department Head Devi Gnyawali. "This adds to the cost of tuition and living expenses for our students. I hope the open textbook will, in a small way, help reduce the financial burden for students and their parents. This is the second open textbook developed by our faculty. I truly appreciate this innovative effort and hard work by Reed Kennedy and the team of professors in the Department of Management."

How does one adapt an existing textbook into an open textbook?

"One must know and understand the material," said Reed Kennedy, associate professor of practice in the Management Department, who helped adapt "Strategic Management."

"I had a team of five professors – Eli Jamison, Joseph Simpson, Pankaj Kumar, Ayenda Kemp, and Kiran Awate – who assisted with the textbook flow and the table of contents, as well as what went into each chapter," Kennedy said. "Getting that consensus is important, so that each faculty member has input and ownership of the textbook. I wrote a lot of copy, but the more difficult part was finding current examples, pictures, and graphics that were free of copyright restrictions for use in the textbook. The editing and re-editing is quite time consuming and tedious."

"We were fortunate to have Anita Walz and recent Pamplin graduate Katie Manning, as well as a couple of student employees with the library, to help with much of the nitty-gritty work."

Once the content has been finalized, Walz and her team work on graphic design as well as color schemes. "The goal is to have a coherent reader experience in which graphic

elements contribute to comprehension and engagement rather than a distraction," she said. Student employee Kindred Grey's contributions to visual elements of the book resulted in a book that is more visually cohesive than what was previously in use.

The use of current examples, pictures, and graphics highlights another advantage of the open textbook – customization. Materials can be shaped to fit a specific course, and content can be altered with local imagery and references to be more relatable to students.

Walz also works to ensure proper credits, that materials are indexed and discoverable, and that downstream adaptors and adopters can use the materials without issues.

The project was made possible with support from the Pamplin College of Business and the Open Education Initiative at the University Libraries. "The Open Education Initiative offers assistance and grants to faculty," explained Walz. "Be it technological assistance, platform assistance, and/or editorial services."

She continued, "We are aligned with the open-source movement, a large and growing movement." The open-source movement is one that supports the notion of open collaboration, be it open-source software or open-source education materials, more commonly known as Open Educational Resources or OER.

"Strategic Management" started with existing content released under a Creative Commons license, which allows the material to be freely customized and shared. "Creative Commons licenses are a layer on top of copyright," Walz said. "Most faculty I work with aim to improve teaching and learning experiences through creation or adaptation of interactive and/or reading resources but need assistance in navigating copyright and open licenses, publication standards, and numerous other details to reach their desired outcome."

"I tell faculty members, 'When something has an open license you are welcome to customize and share. If your course material doesn't fit or is too expensive, you can do something about this.'"

"Strategic Management" was not the first open-source textbook that the Management Department developed. In 2016, Management Professor of Practice Steve Skripak worked with Walz to release "Fundamentals of Business" as

an open textbook. That project began when Skripak contacted Walz after becoming frustrated by the high cost of the newest edition of the textbook.

Since 2016, it is estimated that Virginia Tech students have saved over \$500,000 using the open textbook format of “Fundamentals of Business.” Based on current enrollments and a conservative replacement price of \$100/per student per book, “Fundamentals of Business” and “Strategic Management” together have saved Virginia Tech students nearly \$150,000 each semester in textbook costs.

The third edition of the open textbook “Fundamentals of Business” was released in January 2021.

When Walz and Skripak first embarked on converting an existing openly licensed book into the open textbook “Fundamentals of Business,” the process took just over one year. The process for “Strategic Management” took less than seven months.

“We’ve made significant improvements to our infrastructure and process,” she said. “There is much more organizational support as well.”

While there is more support available, with Virginia Tech adopting guidelines for the creation and use of open textbooks and open educational resources, there are still some roadblocks regarding their widespread usage.

“There is currently a lack of consensus across academia concerning how to best value these contributions from faculty,” explained Walz. “I get questions from faculty such as, ‘is anyone else doing this?’ and ‘how will this impact my career?’”

She continued, “We also do not have a way to signal to students that there are no course material costs associated with specific courses.”

Despite these potential impediments, the benefits of using open textbooks and open education resources far outweigh the negatives, according to Walz. “Such real-world, collaborative work is also a rewarding learning experience for all involved - faculty, students, recent graduates - and for faculty and students using and giving feedback on the course materials,” Walz said. “There are wonderful opportunities for learning and career development, and the output matters a lot to students at Virginia Tech and beyond.”

In her eyes, it is the embodiment of the Virginia Tech motto, *Ut Prosim* (That I May Serve).


“As a land-grant institution, we share,” she explained. “We share with the public, with friends, family, and colleagues.

“It’s what we do.” ■



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Introduction to Biosystems Engineering

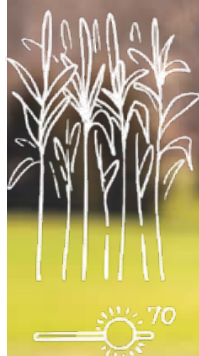
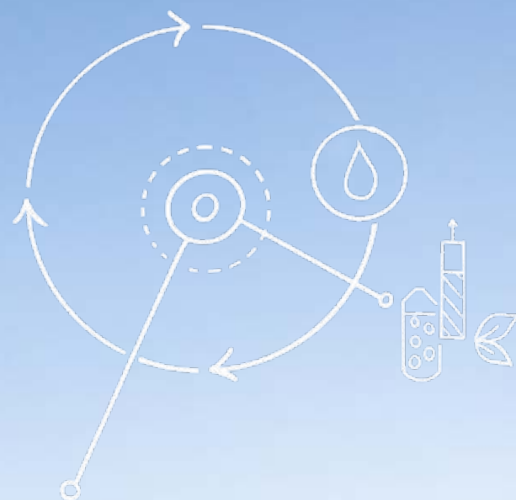
By Ann Brown

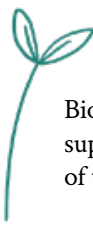
IN FEBRUARY 2021, The University Libraries' Virginia Tech Publishing and the American Society of Agricultural and Biological Engineers (ASABE) published "Introduction to Biosystems Engineering," an open textbook for university-level introductory courses in biosystems engineering.

Written by an international team of authors, this is the first open textbook published as part of the University Libraries' membership in the Open Education Network Publishing Cooperative. It also marks the first time that Virginia Tech Publishing has partnered with an international professional association to publish an open textbook.

"Introduction to Biosystems Engineering" is released under a Creative Commons Attribution license (CC BY) and is available both in print and online. The online version is freely downloadable either as a complete work or as stand-alone chapters. In addition, a parallel resource in development, The Biosystems Engineering Digital Library (BEDL), will provide more teaching and learning resources instructors can use in the classroom.

ASABE Director of Publications Joseph C. Walker said "Introduction to





Biosystems Engineering will help define the profession and support the organization's goal of raising the global prominence of the agricultural and biological engineering profession."

He said it was important for his organization to make this book freely available through open publishing.

"Making the text freely available will provide savings to the students and ensure wider usage, including in non-U.S. countries. With a broad user-base, open access, and ongoing development, the text will stay relevant to the profession and be widely used," said Walker. "We look forward to the textbook possibly spurring other related projects and advancing the field of study."

ASABE President (2019-20) Sue Nokes emphasized that this text "is not a traditional, static object, but a living digital resource to be expanded by educators, researchers, and practitioners with additional topics and developments in this vibrant subject. We look forward to new chapters from biosystems engineers around the world to increase the breadth and depth of coverage."

ASABE past-president Mary Leigh Wolfe, Virginia Tech professor and former head of the biological systems engineering department, was one of the project's initiators. She served as one of the four editors of the text along with Nick Holden and Enda Cummins, professors of biosystems and food engineering at University College Dublin, Ireland, and Jactone Ogejo, Virginia Tech associate professor of biological systems engineering. The four editors share a vision of open access and internalization of their discipline. ASABE and Virginia Tech Publishing have brought that vision to fruition. Wolfe said this book is important because of its global perspective.

"Having authors from around the world helps reinforce the relevance and global impact of our discipline," said Wolfe. "It is important for students to recognize both the differences and similarities of the focus areas of our discipline around the world."

Holden said he and his fellow textbook editors worked with chapter authors to ensure a global focus throughout the book.

"Experts always like to share their knowledge so there is a temptation to write about too much, in their specific context, and at too advanced a level," said Holden. "Our biggest challenge was to reign in this exuberance to make each chapter accessible to a beginner. It has worked really well and will continue to as the content evolves with time. We are already working on new chapters."

The textbook is divided into six sections aligned with technical communities within biosystems engineering: energy systems; information technology, sensors, and control systems; machinery systems; natural resources and environmental systems; plant, animal, and facility systems; and processing systems. Within the sections, chapters focus on topics that can be covered in one week of class and include learning outcomes, key concepts, applications of concepts, and worked examples.

"I'm particularly proud of the planned structure of each chapter. I hope others can take from this model," said Holden. "I also hope that the book introduces more biosystems engineers to the idea of open textbooks, as I do not think the idea is prevalent in the community."

Cummins and Ogejo also emphasized the importance of making the textbook freely available.

"Education should have no bounds, including costs," said Cummins. "An open textbook will ensure dissemination and equal opportunities for all interested parties to learn from this resource."

"Access is key," said Ogejo. "The availability and access to the internet globally to do business (commerce, trade, etc.) is on the rise. Leveraging these experiences to provide access to education materials for college students will provide a lot of benefit, especially to the economically disadvantaged communities."

Wolfe is also passionate about providing current publications to all people.

"Cost prevents many people from having access to current publications. Instead they often receive outdated materials," said Wolfe. "I hope that biosystems engineering programs and students around the world will download individual chapters and the book and find that it is helpful to them. I hope others in education will see that free resources are used widely and they help with providing equitable education for students in all parts of the world and within all programs."

This is only the beginning. The editors see "Introduction to Biosystems Engineering" as a dynamic textbook that will grow and evolve over the next five years while simultaneously extending its global impact.

"In five years' time, I would like to see two things happening. Firstly, I would like to see another two volumes, 50 additional chapters, published and freely available online. This will make the resource hugely valuable for educators around the world," said Holden. "Secondly, I would like to see topic-specific textbooks being written using the same structured approach. I think it will work very well for both edited compilations and authored textbooks, as it helps organize thinking and makes learning much easier."

"I hope to be able to say that the chapters are being used in programs around the world, as evidenced by download statistics and testimonials by users," said Wolfe, "and that new chapters have been added continuously since the beginning." ■



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RUPERT CUTLER PAPERS

illuminate significant history of
environmental preservation

By Elise Monsour Puckett

MILLIONS OF RARE TREASURES

lie behind the glass wall of Special Collections and University Archives at Newman Library. Tucked away in a secure location with environmental controls, you will find historic documents, photographs, maps, rare books, newspapers, and other items that are of special value and importance to history, literature, Virginia Tech, and beyond.

When a new collection is acquired, archivists like Bess Pittman of the University Libraries delicately go through the old, fragile, irreplaceable items with great care to organize and preserve them and make them available to researchers around the world.

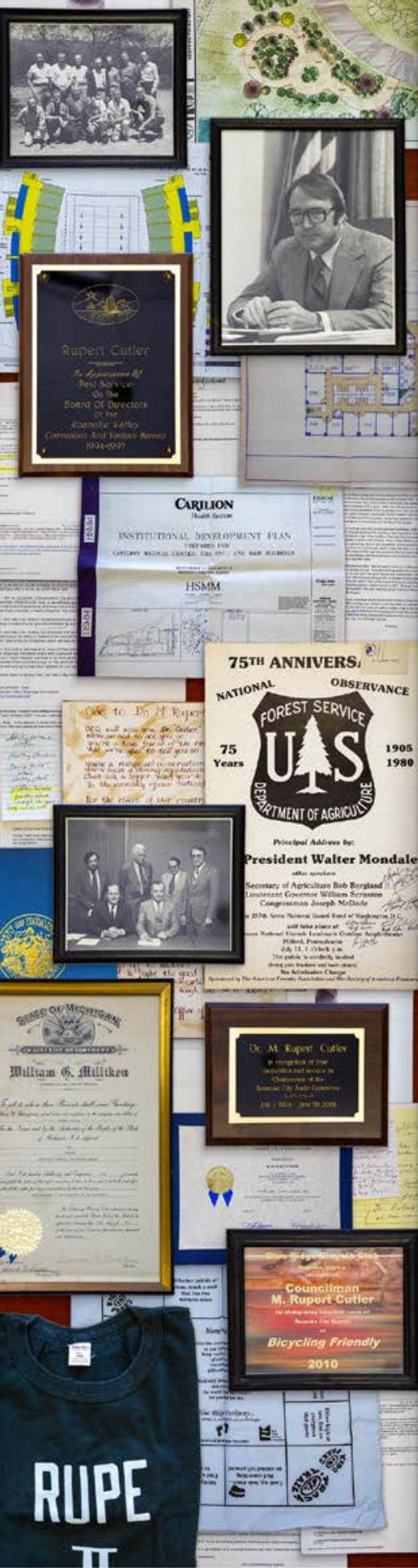
Currently, Pittman is processing the newly acquired and highly sought-after M. Rupert Cutler Papers with the help of a \$74,538, one-year grant by the National Historical Publications and Records Commission (NHPRC).

A native of Detroit, Michigan, Cutler is an important regional figure and prominent environmentalist who since the 1990s has called Roanoke, Virginia, home. He has contributed substantially to the Southwest Virginia community through his impressive work and has dedicated much of his life to environmental issues.

Containing a total of 182 cubic feet of materials, the M. Rupert Cutler collection documents Cutler's environmental, political, and business activities prior to and following his service in President Jimmy Carter's administration as assistant secretary for natural resources and environment of the U.S. Department of Agriculture. Also captured are Cutler's personal experiences, service on the Roanoke City Council, insights into how major federal environmental legislation was passed and new policies adopted, and the establishment and early days of local Roanoke Valley environment-related initiatives, including the Greenways program, Explore Park, Carvin's Cove Natural Reserve for biking, and the Blue Ridge Land Conservancy.

Additionally, the collection contains contributions to environmental organizations nationally and in Virginia, where he served in leadership roles at the National Audubon Society, Defenders of Wildlife, Blue Ridge Land Conservancy, and Virginia Outdoors Foundation.

The collection dates from the late 1960s to the present, excluding some items from 1977 - 1981, which are housed in the President Jimmy Carter National Library archives in Atlanta, Georgia.



"I donated this collection to the University Libraries because I thought the documentary record of my role in the history of the American environmental movement was worthy of preservation for future students of that subject," said Cutler. "The collection shows what one person, day by day, can contribute to the grand sweep of environmental protection initiatives in the United States, not necessarily as the point person in every instance, but by putting one's shoulder to the wheel of progress. I am proud to be able to look back on my contributions to a variety of projects and campaigns that I led, with the help of many others, to their fruition.

A more in-depth look at this collection reveals unique, personal correspondence like birthday cards and friend updates. The professional correspondence includes news clippings, published and unpublished writings on environmental and political issues, materials relating to his participation in several clubs and associations like an acapella group and Kiwanis, and records of his achievements in a variety of personal and professional areas.

"Cutler's correspondence contains the voices of many other leading minds in local politics and the national and international environmental movement," said Pittman. "Without the words and works of our past, we cannot hope to thrive or progress. Archives are a vital tool in saving the records of our human endeavors, and I'm proud to be a part of that."

Pittman is responsible for processing the materials, writing the finding aid for the collection, creating a physical exhibit in the Special Collections and University Archives Reading Room, digitizing a selection of the most interesting 200 items, and creating an online digital exhibit of them.

"As climate change becomes more pressing, the efforts of people like Cutler to preserve the natural world will become more vital than ever, and

their history will be in the spotlight," said Pittman.

"By reading the record of my work preserved in this collection, present and future environmental conservation professionals and volunteers can find encouragement that their day-by-day incremental steps, that at the time don't seem very important, in sum, over time, eventually will help achieve important goals," said Cutler.

Pittman said the biggest challenge of this project has been the in-person time restrictions of accessing the collection during the COVID-19 pandemic. "Cutler is a highly organized man, so his papers are very tidy and makes the processing fairly straightforward," said Pittman.

Cutler is an incredibly energetic figure and I find the sheer scope of his activities to be the most fascinating part of the collection," said Pittman. "It's one thing to be a prominent environmentalist in your prime and quite another to be an active advocate in your 70s and 80s and also be on the city council, run a park, sit on a half dozen boards, be a member of a handful of committees, do charity work, and still find time for family and fun."

Pittman says anyone is welcome to look at the archives. "We are trained to help researchers find exactly what they need, even if they're not quite sure what that is," said Pittman. "A person doesn't need to be writing a book to find useful and fascinating items in an archive and I'd like more people to feel comfortable spending time in our collections."

Pittman said Special Collections and University Archives intend to bring in speakers to give talks about environmental milestones featured in the collection, environmental history in general, and about Cutler himself.

"This collection documents a lifetime of passionate engagement with local and worldwide communities that we can aspire to emulate," said Pittman. ■



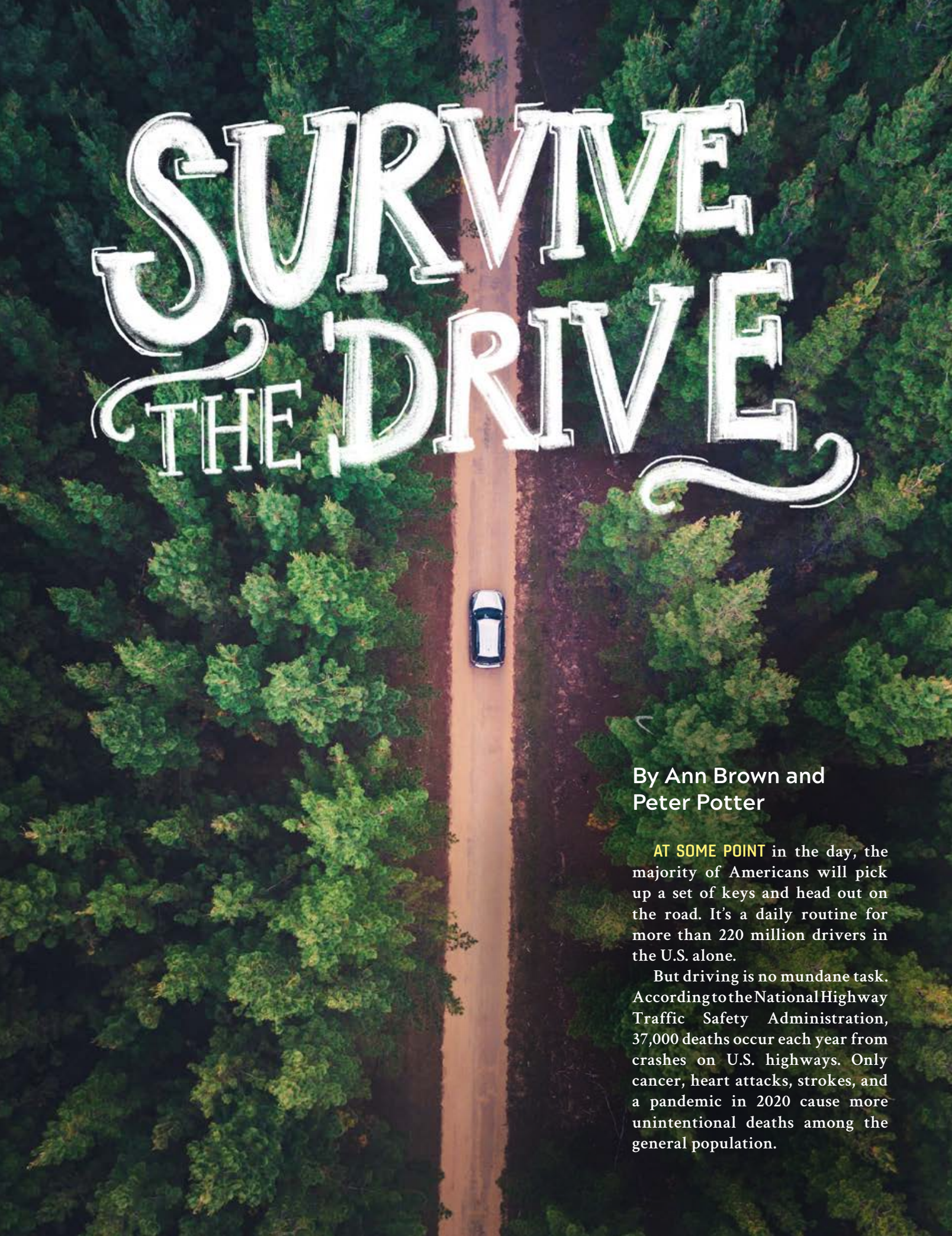
Rupert Cutler pictured in his home.
Photo provided by Rupert Cutler.

The collection shows what one person, day by day, can contribute to the grand sweep of environmental protection ... "

- Rupert Cutler



The Council of the City of Roanoke, Virginia, passed a resolution, "paying tribute to the Honorable M. Rupert Cutler."

An aerial photograph of a two-lane asphalt road winding through a dense forest of tall evergreen trees. A small, dark-colored car is visible in the distance, driving away from the viewer. The road is flanked by thick green foliage on both sides.

SURVIVE THE DRIVE

By Ann Brown and
Peter Potter

AT SOME POINT in the day, the majority of Americans will pick up a set of keys and head out on the road. It's a daily routine for more than 220 million drivers in the U.S. alone.

But driving is no mundane task. According to the National Highway Traffic Safety Administration, 37,000 deaths occur each year from crashes on U.S. highways. Only cancer, heart attacks, strokes, and a pandemic in 2020 cause more unintentional deaths among the general population.

In “Survive the Drive,” Tom Dingus, one of the foremost authorities on driving safety, describes how to reduce the risk of accidents while on the road. Dingus, director of the Virginia Tech Transportation Institute (VTTI), distills decades of transportation safety research, facts, figures, reports, and new cutting-edge research — along with personal anecdotes from his own time behind the wheel — into a uniquely authoritative and entertaining guide for drivers of all ages and types, including adult drivers, teen drivers, senior drivers, professional/truck drivers, and motorcyclists.

The first edition of “Survive the Drive” was published in 2015. The second edition, by Dingus and project associate Mindy Buchanan-King, is available from Virginia Tech Publishing, based in the University Libraries, as a free digital eBook and as an affordable paperback.

“Our goal in publishing a second edition of “Survive the Drive” is to get new and critical information about driver risks out to the public. Every chapter has been revised and updated, incorporating the latest research, including, for instance, on the risks of cognitive distraction,” said Dingus. “This is a book about the biggest cause of accidental injury, death, and disability in the U.S. and how to reduce everyone’s risk by following simple rules. This could save thousands of lives and tens of thousands of serious injuries. Having it available for free to the public through Virginia Tech Publishing will, I hope, greatly increase readership and thereby help achieve those goals.”

Peter Potter, publishing director in the University Libraries, said that publishing the work of Virginia Tech faculty, students, and staff and making it freely available to the public adds to Virginia Tech’s societal impact.

“Unlike traditional university presses, which mostly publish work by scholars from other institutions, we focus on research produced right here at Virginia Tech,” said Potter. “VTTI is one of the leading transportation research institutes in the U.S., so it makes sense that we would collaborate with Tom Dingus and Mindy Buchanan-King to publish “Survive the Drive,” a book that takes the high-level research conducted at VTTI and translates it into a practical guide for general readers. We see it as a natural extension of Virginia Tech as a land grant institution.”

“
Our goal in publishing a second edition of “Survive the Drive” is to get new and critical information about driver risks out to the public.

Tom Dingus



The low cost paperback and freely available eBook features data from top experts in driving safety and data from the largest naturalistic driving study ever conducted.

The second edition of “Survive the Drive” incorporates the latest research and data from VTTI including findings from the largest naturalistic driving study ever conducted, the Second Strategic Highway Research Program Naturalistic Driving Study, which was led by VTTI and its partners and sponsored by the National Academy of Sciences. In this study video cameras and other sensors were placed in the cars of more than 3,500 volunteer drivers for up to two years each, resulting in more than 35 million miles of continuous driving data.

Armed with this data, Dingus assesses the risk that drivers face in virtually every situation, such as texting or talking on a cell phone while driving, picking a vehicle with near-zero crashworthiness, not wearing a seat belt or motorcycle helmet, driving while tired or angry, or driving after one or two drinks.

Dingus and his team of researchers and engineers pioneered the naturalistic driving study research method and are working to ensure the safe development and deployment of the next generation of motor vehicle technology.

“Our collective work at VTTI has saved countless lives over the last 25 years. We work with over 100 sponsors including 14 car companies to develop, test, and improve safety systems,” said Dingus. “Every safety system in cars today, from backup cameras to restraint systems to automated emergency braking and other automation systems have been a part of this process.” ■



Tom Dingus shown standing in front of Virginia Tech Transportation Institute offices in Blacksburg. Photo by Ann Brown.



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SPOTLIGHTS



This section highlights the most important University Libraries resource, our people. From former library student employees, who hold a special place in our alumni ranks, to current employees offering expertise and access to resources for the Hokie Nation, the University Libraries appreciates each and every one.

David Kim '20 works on an audio project in Defiant Studios, Richmond, Virginia. Photo by OohRyanNiceShot.



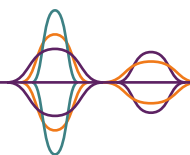


Mixing it up in library studios leads to dream job

DAVID KIM '20 uses his innate creativity to mix, record, and produce music. As a popular recording engineer at Defiant Studios in Richmond, Virginia, Kim helps musicians bring a dream and a song from idea to reality.

"I'm a firm believer in fate," said Kim. "That doesn't mean it just happens, you have to put actions forward to make things happen. I'm where I'm supposed to be."

He said his professional path became clear when he attended his first open studio hours held by Virginia Tech Digging in the Crates in the University Libraries. There, the second-year business major was introduced to Craig Arthur, head of University Libraries' foundational instruction and community engagement, and Freddy Paige, a faculty member in the Department of Civil and Environmental Engineering. Both are faculty leaders in the Virginia Tech Digging in the Crates program.



"This meeting changed my life," said Kim. "Craig and Freddy were and are very influential in how I move in life."

"The values and perspectives they hold are ones I carry to this day," Kim said. "I'm a firm believer in mentors. Sometimes in life you find those people who were meant to mold you and guide you closer to full maturity. It's important to seek those people, listen, and then observe them."

Curtis McCoullough, currently the studio manager at Defiant Studios, has become a mentor to Kim in his professional life. "Curt has really shown me what it means to be a leader and a teacher to others," said Kim.

During Kim's time as a student and outside of open studio hours, he became a regular in the University Libraries Media Design Studios experimenting with Pro Tools, a music production software and industry standard. Neal Henshaw, former University Libraries' instructional designer and educational technology consultant who oversaw the library's Media Design Studios, gave Kim permission to learn and experiment with the recording equipment in the space after hours.

"Oftentimes you find people who will make progress harder for you, but Neal was the opposite of that," Kim said. "I remember my first real experience working in Media Design Studio B was helping former Virginia Tech student Malik White record and mix his mixtape. Neal was very open and helpful with giving us the tools and space to get that project done."

His extensive interest and time in Media Design Studio B prompted a suggestion by Arthur to apply for a job at the Media Design Studios. Kim got the job and began in Media Design Studio A, lending equipment to faculty and students, and then eventually worked primarily in Media Design Studio B.

"Working in Studio B, allowed me to be more focused on what I wanted to do. I was working with and recording audio and music. I was helping people," said Kim. "For me, as a creative, I can understand how frustrating it is to not be able to bring ideas to fruition and hitting a wall. I was able to help."

Kim remembered one particular student poet. "She had been writing poetry and music for some time, but never really recorded herself," said Kim. "She came to Studio B one day, we did the recording and I played it back for her. She cried. Seeing that reaction showed me firsthand what my work could do for others."

Eventually students began coming to him to help record their music. "Studio B really is a great resource that everyone should know about. We recorded two EPs for Virginia Tech junior DeRay Manning in that space, giving someone who has a musical gift like DeRay a space like Studio B is something to be proud of," Kim said.

This was training for his future, even though Kim didn't realize it at the time.

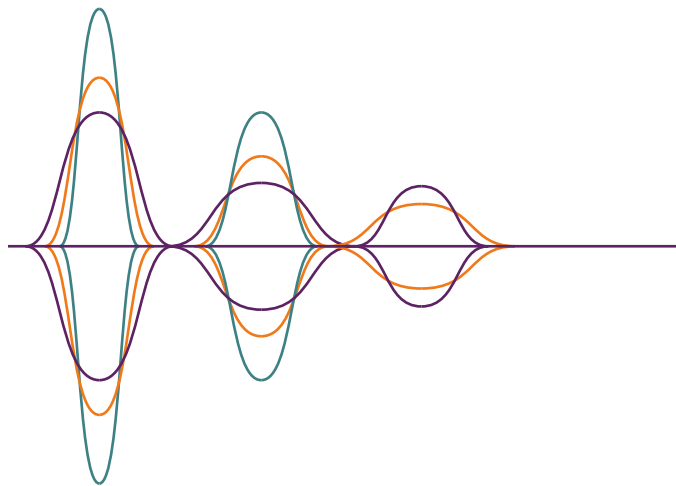
"The job I have now is similar to the job I had in Studio B," said Kim. "People book appointments and reach out to me for help with their audio projects. It's one of the reasons why Defiant Studios hired me. They were impressed with my experience working for the library, my involvement with Digging in the Crates, and leading open studio hours every Friday."

Now, instead of clients coming from across campus, they come from across the East Coast.

"I have a client that's a music manager from Staten Island, New York," added Kim. "He brings his artists to me to record and is very hands-on, which has been a good learning experience. I have set availability and clients book me. Some weeks I have one or two recordings and other weeks I'm booked solid."

In addition to being one of Defiant Studios' recording engineers, he also became its intern supervisor. "We recently brought on our first group of interns for 2021. Virginia Tech Digging in the Crates taught me that you have to pass on what you know to the next person," added Kim. "Something Freddy once said was 'you teach me and I teach you.' I find that concept to be incredibly important, especially for the position I'm in."

For Kim, this is only the beginning. "I like to get things done and check things off my list. Sometimes I see life like a video game where you go through the checkpoints and on to the next one," said Kim. "Eventually I am going to be a CEO because of my ability to see the bigger picture, plus I enjoy leading large groups and executing goals. Being able to lead and help people be better versions of themselves is something I take great enjoyment and pride in. While my title or role will change, I will always be involved in music." ■ AB



The path to professional success wound through Newman Library

LESLIE HOMZIE '91 remembers Newman Library as a bridge between town and student life with its location close to College Avenue and the restaurants and activities vibrant college towns are known for. The library played an important role in her transition from student to professional during her three and a half years as a student employee in the University Libraries.

Currently, Homzie serves as senior research librarian for communication, sociology, and women's and gender studies in the Boston College Libraries.

"I enjoy working one-on-one with students to help them with their research needs, and I'm very involved with library instruction and teach a lot of classes. I also understand what faculty need from our library and I find satisfaction in helping them with research and teaching," said Homzie. "I recognize the importance of libraries in academia and enjoy the academic setting."

Her library interests began while she worked as a shelver in Newman Library. She would organize and shelve the thick bound engineering scholarly journals in the stacks and then moved on to assisting at the reserve desk and circulation. She also remembers greeting fellow students as they walked through the main library doors and checked out their books.

"That was back when there was very little content online. Working at the course reserves service desk had its perks because professors used to put a lot of physical course materials



Photo provided by Leslie Homzie.



there,” said Homzie. “You were able to see what was coming in and out of the library and give your friends a heads up when the materials they needed were available.”

Homzie said working in the library fit her interests and personality. She was never pressured by her family to be pre-professional minded in her college years, but to find her interests. Her late father was a faculty member at the University of Virginia and she was raised in an environment that emphasized the exploration and discovery of knowledge.

After graduating from Virginia Tech, she spent a year in Israel and then worked in New York City for the publisher Springer and Holmes & Meier Publishers. While at Holmes & Meier she regularly worked with librarians from academic libraries with permissions requests. It reinforced her love for academic libraries and she enrolled in the master’s degree program in library and information science at Indiana University-Bloomington.

With her master’s degree completed, Homzie’s first professional library position was as the political science and urban affairs librarian at the University of Delaware. Her political science undergraduate degree from Virginia Tech was beneficial in landing the position working as the liaison to those departments. Now, Homzie is in her 15th year at Boston College Libraries. She said that this is the perfect position that allows her to juggle work and being a mom to 10-year-old triplet girls, during this mostly virtual year.

“Earlier in my career, I was more involved in the American Library Association and many professional committees,” said Homzie. “Work-life balance now is very important, especially during the COVID-19 pandemic. I’ve been fortunate to work for a library that supports work-life balance.”

She’s in the thick of helping Boston College faculty and students with their research and teaching needs but also makes time to be a Girl Scout leader, ski with her family, and cheer on, with her husband George, her daughters’ soccer and softball teams.

In between family activities and work responsibilities, she thinks back on her breakfasts at Gillies in Blacksburg or a lunch at The Cellar. “I miss Blacksburg,” said Homzie. “I enjoyed exploring the town just as much as I enjoyed my life at Virginia Tech. I look forward to my next visit.” ■ AB

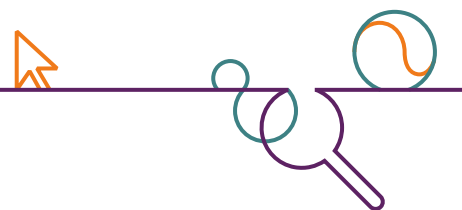




Photo provided by Kendall Taney Cummings.

The precious moments

KENDALL TANEY CUMMINGS '97, DVM '02 remembers the spiral notebook with handwritten personal messages on Newman Library's information desk - the students' version of Snapchat before the turn of the century.

"We would write messages related to work, inspirational quotes, doodles, and good day wishes in this notebook for the next shift of students," said Cummings. "I made good friends in the library as a student employee. This is one of the groups of people that stick out in my mind when I think of my college experience. We didn't always see each other outside of work, but you had that library bond."

From meeting her future husband Nathan Cummings '98, MS '02, Ph.D. '04, walking across the Drillfield at 8 a.m. in the dead of winter, to conducting undergraduate research on



lizards, each moment is precious to Kendall Taney Cummings. Her time at Virginia Tech helped her grow, pushed her to get involved, and led to her success.

"When I was 18, I was quiet and reserved. I was a little bit intimidated by college professors. But, I needed research experience and I couldn't hide in the corner," added Cummings. "I needed to get involved and meet people who could help me get to the next level."

Now, Cummings is a Diplomate of the American Veterinary Dental College and pursuing a fellowship in veterinary oral and maxillofacial surgery. She has been a veterinarian at the Center for Veterinary Dentistry and Oral Surgery in Gaithersburg, Maryland, since its opening in 2006, and she became a partner in 2008.

"When I graduated with my DVM, I never thought I'd be a veterinary dentist, I thought I'd be a general practitioner," said Cummings. "But one of my Virginia Tech professors offered me a dentistry residency, and it's been a very satisfying career."

Cummings said she will never forget her academic mentors Tom Jenssen, associate professor emeritus of biological sciences, and James Wightman, professor emeritus of chemistry. "I had really good professors that I'll never forget, because they cared," said Cummings. "They are amazing people who pushed me along the way to how successful I am today."

Because of those precious moments and mentors, Cummings returns to campus yearly to give dentistry lectures to veterinary students. "I'm very proud they asked me to do that. It's a big honor and I really enjoy it. It's neat to look back at where I used to sit and remember being a student. **Hopefully I can inspire them, like my professors inspired me.**"

Cummings also enjoys coming to visit Blacksburg for football games and alumni events. She looks forward to adding more precious Virginia Tech moments to her Hokie experiences. "I love Virginia Tech all the way to my core. When I'm in the area, my heart is happy. I felt like that as a student," added Cummings. "I hope to move back to Blacksburg someday and retire there. I can't sufficiently express how much I love it there." ■ **AB**

A passion for reducing barriers and helping others

ROB BOHALL '91 began his library career at the age of five. He still has the paper mache duck he made in kindergarten while serving on his elementary school's library committee.

"For me libraries have always been a space for intellectual discovery and a sanctuary to explore," said Bohall. "My father always said there are so many books, so little time."

While a student at Virginia Tech, his need to intellectually explore was especially strong. He began as a Spanish major, changed to forestry, then geography, then decided to pull all of his broad interests together through a Bachelor of Arts degree in liberal arts and sciences. He also volunteered for the student newspaper and was a student member of the University Libraries' periodical team, transitioning and refreshing periodicals for patrons.

Upon graduation, he became a temporary employee for the National Archives and the World Bank in Washington, D.C. His interest in library science was piqued even more. "I had a chance to get to know many reference librarians and learned what they do," said Bohall. "I was intrigued by their work so I decided to earn my master of library science degree."

After earning his master of information and library science degree, the World Bank hired him full-time as a reference and education librarian. While in that position, he became involved in a project moving library materials to a common content management system and presented during a week-long workshop in Nairobi, Kenya, for staff members of World Bank Information Centers on conducting reference interviews, outreach, strategic dissemination of information, and setting effective boundaries in information service. These experiences firmly established his interest in librarianship and web development.

After meeting his wife Penny, Bohall decided to look for employment opportunities beyond the capital city. He accepted a position at Indiana Wesleyan University's library as an adult education librarian and managed the library's website. Later, Bohall took an opportunity to expand his knowledge and skills in web development by working for the Fortune 500 company Western & Southern Financial group's web development department. But, he missed the library.



Photo provided by Rob Bohall.

His wife is an Oregon native and they wanted to move their four children closer to her family. So in 2011, Bohall accepted a faculty position with George Fox University Libraries in Newberg, Oregon. He is now a research and instruction librarian, manages the libraries' website, and serves as the university's Director of Assessment and Institutional Research.

Bohall said his dual career in library science and web development offers him the opportunity to make a difference.

"In my mind, one major role of libraries in society concerns closing equity gaps," said Bohall. "Core to library ethos is serving all constituents regardless of ethnicity, socioeconomic status, gender identity, age, etc. I'm currently doing research on transparent design of library instruction in Christian higher education and the impact on closing equity gaps. This can certainly be extended to public and special library contexts as well."

In true Hokie spirit, Bohall's life's goals reflect Virginia Tech's motto, Ut Prosim (That I May Serve). This includes promoting equity and serving others. "With the heart for the marginalized, I volunteer locally by helping distribute food to needy residents and bringing communion to residents of nursing homes," said Bohall. "My goals essentially boil down to living out the classical virtues of justice, perseverance, prudence, and temperance and helping others overcome barriers." ■ AB



WE ARE CELEBRATING

the important work all of our faculty and staff do in the University Libraries.

As we all transitioned to virtual work in the spring 2020, many of these workshops, conferences, and presentations became virtual which increased the reach and impact of library expertise. Below is a selection of accomplishments from fiscal year 2020.

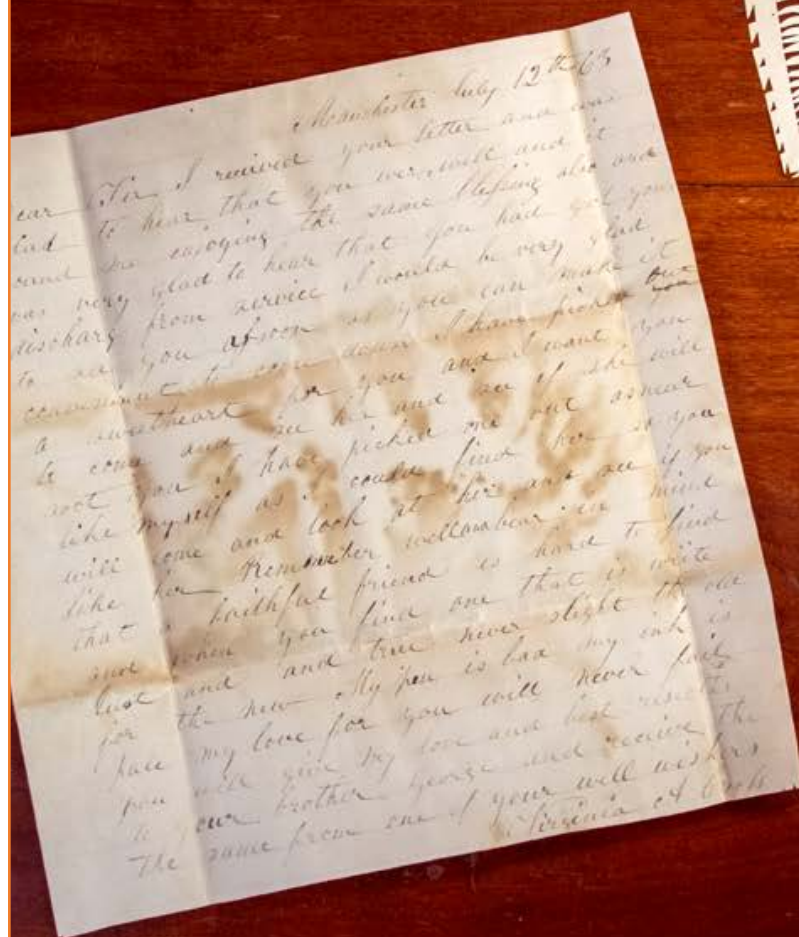
(July 1, 2019 - June 30, 2020)

- **Craig Arthur**, F Paige, **La'Portia Perkins**, M Wright, and M Moseley presented "VTDITC: Community engagement via hip hop pedagogy" at the international Engagement Scholarship Consortium Annual Conference.
- **Jonathan Bradley** published "How to use an API management platform to easily build local web apps" in Code4Lib Journal issue 48.
- **Marc Brodsky** published "Seeing through risk in the Special Collections classroom: a case for flexibility" in the Society of American Archivists' series Case Studies on Teaching Primary Sources.
- **Cathryn Copper** contributed the chapter "Change agents: libraries and archives confronting gender issues in architecture" in Art at the Intersection of Librarianship and Social Justice.
- **Julia Feerrar**, R Hobbs, S Spicer, and J Groth Evans presented "Film and media literacies in academic libraries," an international Media Literacy in Academic Libraries webinar.
- **Corinne Guimont** presented "Pieces of publications: exploring new ideas for sharing digital projects" at the international Library Publishing Forum.
- **Kirsten Dean** and **Kelsey Hammer** published "Breathing, GIFS, and laughter: low-barrier strategies for acknowledging bodies in classrooms" on medium.com.
- **Amr Hilal**, M. Khalil, A. Salman, S. El-Tawab presented "Exploring the use of IoT and wifi-enabled devices to improve fingerprinting in indoor localization" at the 2019 IEEE Global Conference on Internet of Things (GCIoT).
- L. Li, J. Geissinger, E. A. Fox, and **William A. Ingram** published "Teaching natural language processing through Big Data text summarization with problem based learning" in the journal Data and Information Management.
- **Gail McMillan** presented "The ETD lens on the institutional repository and the university" at the 22nd International Symposium on Electronic Theses and Dissertations.
- **Chreston Miller** published "Timing is everything: Identifying diverse interaction dynamics in scenario and non-scenario meetings" in the IEEE 15th International Conference on eScience proceedings.
- **Amanda MacDonald**, **Anne Brown** and SN Lewis published the book chapter "Open pedagogical practices to train undergraduates in the research process: a case study in course design and co-teaching strategies" in Open Pedagogy Approaches: Faculty, Library, and Student Collaborations.
- **Lisa Becksford**, **Kyrille DeBose**, **Edward Lener**, **Virginia Pannabecker** and **Kodi Saylor** published the chapter "Sustaining graduate information literacy instruction: A case study of best practices" in Academic Library Services for Graduate Students: Supporting Future Academics and Professionals.
- **Ellie Kohler** and **Connie Stovall** presented "Creating, recalibrating, and collecting assessment metrics for strategic initiatives and annual reporting: a case study at Virginia Tech" at the International Conference on performance Measurement in Libraries.
- **Sarah Sweeney Bear** and **Max Ofsa** presented "Don't split the party: Using tabletop RPGs to teach collaboration skills" at The Library Collective conference.
- **Jonathan Briganti** and **Anne Brown** published "Exposing students in a data-driven cohort to ill-defined problems" for the 11th annual International Conference on Higher Education Pedagogy.
- **Rachel Miles**, **Virginia Pannabecker**, **Amanda MacDonald**, J. Kuypers, and **Nathaniel Porter** published and presented "Faculty perceptions on research impact metrics, researcher profile systems, fairness of research evaluation, and time allocations in the Journal of Altmetrics and the Altmetrics Conference.
- **James Tuttle**, **Yinlin Chen**, **Tingting Jiang**, **Lee Hunter**, **Andrea Waldren**, **Soumik Ghosh**, and **William A. Ingram** published "Multi-tenancy cloud access and preservation: Virginia Tech digital libraries platform" in the proceedings of the ACM/ IEEE Conference on Digital Libraries.
- **Yinlin Chen**, **Soumik Ghosh**, **Tingting Jiang**, and **James Tuttle** published "Scaling IIIF image tiling in the Cloud" in the Code4Lib Journal Issue 47.
- **Peter Potter**, **Anita Walz**, **Philip Young**, KP DePauw, T Thompson, F Paige, and SW Ellingson presented "Connecting the opens: Open access, open education and more" at the Open Education Forum 2020 (<https://vtechworks.lib.vt.edu/handle/10919/97516>).
- **Alex Kinnaman** and **Corinne Guimont** presented "Potential strategies for preserving complex DH projects" at Best Practices Exchange 2020.
- **Andi Ogier**, **Jonathan Petters**, **Virginia Pannabecker**, R Settledge, E Grant, S Harden, **Julie Griffin**, and **Tyler Walters** published "Public access: A driver for preservation and discovery of datasets at a US land-grant institution" at the IFLA World Library and Information Conference proceedings at the international IFLA World Library and Information Congress.

- **Michael Stamper, Jonathan Briganti, Anne Brown, A Dietrich, A Godrej, M Schreiber, and Anita Walz** presented the poster "DESIGN THINKING for visualizing acid-base chemistry - Documenting a user-centered approach for designing and developing an ADA compliant online tool for visualizing acid-base chemistry" at the international Gordon Research Conference - Visualization in Science and Education - Educating Skillful Visualizers (hdl.handle.net/10919/93359).
- **Nathan Hall, J Hardesty, Z Lischer-Katz, J Johnson, M Cook, and R McDonald** published the journal article "Challenges and directions in 3D and VR data curation: Findings from a nominal group study" in the International Journal of Data Curation.
- **Scott Fralin and Alice Rogers** published "Course-based exhibitions: Serendipity in the physical and digital spaces of academic libraries" in Alexandria: The Journal of National and International Library and Information Issues.
- R Skarbez, NF Polys, **Todd Ogle, C North, DA Bowman** published "Immersive analytics: Theory and research agenda" in Front Robot AI.
- **Elise Monsour Puckett** published the children's book, The Adventures of Scout & Kit: I Wish I Lived in a Treehouse.
- **Aaron D. Purcell** presented "The other end of the line: Acquiring the Rupert Cutler Papers at Virginia Tech" at the Society of American Archivists Annual Meeting.
- Xinyue Wang and **Zhiwu Xie** published "The case for alternative web archival formats to expedite the data-to-insight cycle" in the proceedings of the 2020 ACM/IEEE Joint Conference on Digital Libraries.

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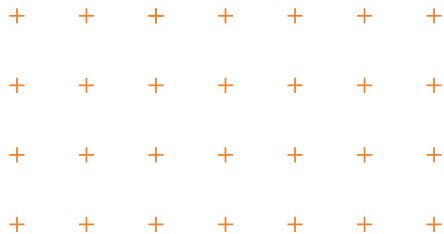


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