

SPRING/SUMMER 2023

IMAGINE

University Libraries at Virginia Tech Magazine

PASTED HISTORY
Swiss poster collection

Dinosaurs in the
palm of your hand

Patterns give
insight into
cyberbullying



AUGMENTED REALITY

immerses museum visitors in interactive learning.

See story on page 12.

TELEOCRATER FOOT

3D model of Teleocrater rhadinus foot
courtesy of ARIES.
Photo by Chase Parker.

Imagine

Spring/Summer 2023 Vol. 4, No. 1



Dear friends of the University Libraries,

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All the best,

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

Features

Scholarship

- 4 Swiss poster collection
- 8 Center for Oral History

Creativity and Innovation

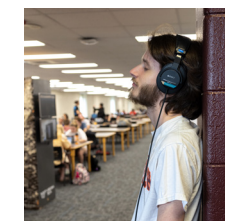
- 12 Student employees learn by doing

Data

- 16 Fighting hunger with breadfruit
- 18 Patterns give insight into cyberbullying

Spotlights

- 23 Tyler Walters appointed APTrust board chair
- 24 Faculty emeriti



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

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Front cover: Posters wheatpasted on a Swiss town, illustration by Juliette Good. Features photos: Student listening to oral histories by Chase Parker (top right). Kayla Jones by Chase Parker (middle right). Gail McMillian by Chase Parker (bottom right).

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Rare vintage

SWISS POSTER COLLECTION

finds home at Virginia Tech

retired Purdue University Professor Dennis Ichiyama. They are largely advertisements known to be wheatpasted and posted in the streets of Europe from the mid-1980s to the late 1990s with some from the 1960s to the 2010s.

A little more than 600 are standard Swiss poster size of 36.5 by 50.5 inches and are mostly screen prints with some linocut prints, lithographs, and digitally printed posters included. The rest of the 327 are linocut, screen print, letter press, lithograph, and digitally printed posters in many sizes.

These rare posters will reside in the Art and Architecture Library as a teaching collection. Eventually, they may be used for exhibitions, but their main purpose is to add another perspective of design that will benefit students in the College of Architecture, Arts, and Design (AAD). Additionally, faculty and students in the master's program in material culture and public humanities plan to help archive and research the collection.

"While graphic design students might be the first group that comes to mind when thinking of poster design, all students in AAD will benefit from more exposure to different types of design," said Scott Fralin, exhibit program manager and learning environments librarian who helped coordinate the poster donation. "Perhaps a poster layout will inspire

a building design for an architecture student, or a color palette will provide fresh inspiration for someone in interior design."

This is one of the largest collections of Swiss posters in the United States and is a notable addition to the library and program. "It's an experiential learning working collection, meaning students are able to carefully touch and interact with the posters, which gives them a very unique and personal experience," said Meaghan Dee, associate professor of graphic design in the School of Visual Arts in AAD.

Ichiyama began collecting the posters in 1976 while a college student in Basel, Switzerland.

"The posters reminded me of what things were like back in the days of bicycles with a pail full of thick glue and a large, coarse bristled, paint brush on the back," said Ichiyama. "I was amazed to see

history come alive. As a student looking at things in a very old city, they were marvelous. They were just so beautiful."

Ichiyama planned to teach when he returned to the United States and was looking for a Swiss souvenir to bring home with him to use in his classroom. "I thought the posters would be perfect," said Ichiyama. "Along with Swiss chocolate, of course, these posters would be a cheap way to bring back souvenirs. A bonus was that they stored flat under the bed."

Being a student with a small budget and living off of fruit, yogurt, cheese, and chocolate, Ichiyama thought this was the perfect plan.

Ichiyama made a small group of American friends who also were studying in Switzerland. They would get together for weenie roasts and potato salad and practice the unique language there, a Swiss form of German. Although communication was difficult and because you couldn't tear the posters down because they were printed on a temporary paper, Ichiyama contacted the poster publisher AlgaminaPlacopGilechoft (APG), meaning General Poster Company. The posters were replaced frequently because of graffiti, so the company gave him the leftovers.

The problem was that over the 3 1/2 years Ichiyama was studying in Switzerland, the stack of posters under his bed became very heavy. So heavy, in fact, that when it was time to return home to the U.S., he had to ship them by boat. He still wanted to continue expanding his collection of posters and told the poster company employees he'd be willing to pay for shipping if they'd ship them by mail. They agreed, but to his surprise, started sending batches of award-winning posters.

Each year, the Swiss government selected a poster winner from the posters advertised throughout the year. All of the finalists were selected by professional printers, the city, and the Swiss government. All of the finalists' posters were then distributed by the Swiss government as examples of good design and displayed at Swiss embassies to share with people around the world.

"I knew I was getting the cream of the crop of posters for that year. In the beginning, when they arrived, I would gently unroll them and let them lay flat to slowly regain their shape," said Ichiyama. "I was excited to spread the word about Swiss art and history."

After retiring from Purdue University, Ichiyama realized his collection was so large he couldn't keep storing them at his home. He also didn't want them collecting dust.

Dee had met Ichiyama at the Southeastern College Art Conference, an art, art history, and design event, in the summer of 2014. While catching up in 2021, Ichiyama mentioned his large vintage poster collection was looking for a home. The graphic design program in the School of Visual Arts and the Art and Architecture Library came together to provide that home, and the posters arrived in Blacksburg in June 2022.

"They mean a lot to me," said Ichiyama. "I'm glad the posters have a new life. They should be seen and touched."

"Swiss posters are such a lovely, oversized scale too — much larger than the typical U.S. poster," said Dee. "While it's wonderful when we get to travel with our students to other countries and cities, we don't always have the chance to. So when that isn't possible, it's great to bring artifacts to them. And there are few places in the world with this sort of collection, so students really have access to something special here at home."

Many of the posters found in the collection are also held in museums around the world. "There are relatively few collections like this at universities," said Fralin. "It is a huge asset to the visual communication design program here, as well as all other students in AAD." ■

These posters are a form of communicating with images instead of words.

Dennis Ichiyama

Scott Fralin and Meaghan Dee arrange posters from the collection. Photo by Chase Parker.



By Elise Monsour Puckett

FLOUR, WATER, AND SUGAR are common kitchen ingredients used for baking hearty breads and sweet pastries. But from the 1960s to the 1990s, they weren't just used for cooking.

For as little as \$1 a gallon, these ingredients could be boiled together to create a thick sticky wheatpaste that adheres to paper - like rubber cement used in elementary schools, but white. This concoction was applied to batches of the same advertising posters and attached repetitively to the sides of buildings, construction sites, nightclubs, and barricades to draw people's attention. This practice is called wild posting, also known as wheatpasting, flyposting, or bill posting, and is street-level, in-your-face, fast-composed advertising of news, events, art, and opinion.

Recently, a collection of 935 vintage Swiss posters was donated to University Libraries by

Carbon Footprint Research

LEADS TO INTERNATIONAL BEST PAPER PRIZE



By Elise Monsour Puckett

THE BEST PAPER PRIZE was awarded to Alex Kinnaman and Alan Munshower of University Libraries at iPRES 2022, the 18th International Conference on Digital Preservation in Glasgow, Scotland. The jury members selected Kinnaman and Munshower's paper, "Green Goes with Anything: Decreasing Environmental Impact of Digital Libraries at Virginia Tech," in part because the "topic of this paper couldn't have been more timely."

Kinnaman and Munshower examined the carbon footprint of University Libraries' practices, particularly appraisal and preservation, and made a set of recommended adjustments and areas for further consideration.

Measuring a carbon footprint is complicated and difficult. The team investigated two specific areas, fixity and storage, and the energy consumption of both based on the University Libraries' current digital infrastructure.

"Storage, for example, is fluid," said Kinnaman, University Libraries' digital preservation coordinator. "Content moves back and forth between various servers on different mediums, and pinpointing an accurate read of any given storage space at a given time requires estimations and a grain of salt."

They focused on how they could reorient library practices to consider the climate impact more urgently.

"It came as a pleasant surprise to us when the jury found possibilities for broader application of our work," said Munshower, digital collections archivist.

The jury said Kinnaman and Munshower concluded their research with strong recommendations for Virginia Tech and for the wider library community that can foster a more "environmentally sustainable digital platform."

"This paper helps start the internal conversation around the environmental impact of current digital storage and information

management practices across the profession, and how University Libraries at Virginia Tech can adapt," said Munshower.

Libraries are designed to preserve analog and digital material, and all things digital require significant energy. "As a digital preservationist, my job is essentially to ensure that all of our digital assets are accessible to a minimum of five to 10 years," said Kinnaman. "This requires a massive amount of storage and ongoing maintenance activities, which effectively does what is necessary to meet that goal, but there is never a stopping point because preservation is active."

Kinnaman used the example of turning off lights to save energy. "Those on campus may be familiar with our Lights Off/Power Down event,

a designated time intentionally dedicated to powering down anything nonessential to conserve energy," said Kinnaman. "Preservation never powers down entirely, but there needs to be similar intentional decisions made in preservation to decrease certain activities to save on power where possible."

The team did not set out to tear down existing best practices, ISO standards, or workflows of digital preservation. "Though, when many of the standards are optimized for an endless supply of resources, there will be a breaking point where that model is no longer sustainable," said Munshower. "A goal of less energy

consumption may mean making difficult decisions around preservation practices." ■

“
This paper helps start the internal conversation around the environmental impact of current digital storage and information management practices across the profession, and how University Libraries at Virginia Tech can adapt.”

Alan Munshower



CENTER FOR ORAL HISTORY

Captures and Preserves the Stories of Lived Experiences

Ginger Wagner and unnamed individual sitting on porch of a New Town house. Photo courtesy of Blacksburg Museum and Cultural Foundation.

By Ann Brown

THE CENTER FOR ORAL HISTORY brings together scholars and community members to create and preserve oral stories and provide an introduction to the field of study of oral history.

For several years, a group of Virginia Tech faculty from disciplines across campus discussed the challenges in creating, managing, and accessing oral history collections. The group included representatives from existing oral history projects, such as VT Stories, which was founded with assistance from Laura Sands as well as David Trinkle from the Virginia Tech Carilion School of Medicine, who since 2018 has worked on documenting health care in the Roanoke Valley with the Healthstorian, a mobile oral history audio booth.

In 2019, the group agreed on a formal organization focused on all aspects of oral history.

The group decided that a Center for Oral History would raise awareness for the use of oral history, formalize practices and training to create oral histories, and educate the public about the importance of oral history for both research and outreach purposes. The center was created to align existing resources and expertise on campus, support new oral history projects, identify existing oral history collections in archives, and educate the public by making more oral history content accessible for study or enjoyment.

“The Center for Oral History is a critical addition to Virginia Tech’s research, outreach, and educational missions,” said Katrina Powell, founding director of the Center for Refugee, Migrant, and Displacement Studies and member of the Center for Oral History’s stakeholders committee. “There are many faculty, students, and staff who are engaged or want to be engaged in oral history, and this center will provide a central place to conduct research, learn about oral

history methodologies, and showcase university and community projects.”

As a college-level center, the Center for Oral History brings together practitioners, researchers, archivists, technical experts, Institutional Review Board representatives, and community advisors into a standalone group focused on the process and practice of oral history. The center is based in the University Libraries with partners in the College of Liberal Arts and Human Sciences and the Virginia Tech Carilion School of Medicine.

“Through training programs, equipment loans, individual or classroom consultations, and resource lists, we hope to make the practice and study of oral history a much more common part of the Virginia Tech experience,” said Aaron D. Purcell, chair of the Center for Oral History and director of University Libraries’ Special Collections and University Archives.

Jessica Taylor, assistant professor of oral and public history in the College of Liberal Arts and Human Sciences and member of the center’s stakeholders committee, is heavily involved in recording and preserving oral histories.

“We have all been recently reminded that we are living in historical moments, that life can change rapidly, and that our elders are precious,” said Taylor. “We are also reminded, again and again, that we frame and take part in historical moments through contemporary social and economic inequalities. I’m so happy to work with other people on and off campus who find documenting and preserving unwritten memories from people of all walks of life to be powerful and urgent.” ■



LEARN MORE
lib.vt.edu/center-for-oral-history

AUGMENTED REALITY

brings museum exhibits to life



A VIRGINIA TECH TEAM is bringing museum exhibits to life by creating a complete digital skeleton of a Teleocrater rhadinus — an animal that predates the dinosaurs — to serve as the centerpiece of an immersive educational experience.

This interactive learning environment will include digital replicas of all individual bones as well as a mounted 3D-printed skeleton. The related educational materials will be accessible worldwide, filling in the holes between what our scientists know today and the Earth's history.

The Modern Skeleton: Translating Natural History into Interactive and Immersive Experiences project was made possible by a \$25,000 Institute for Creativity, Arts, and Technology Major SEAD Grant. Led by paleontologists Sterling Nesbitt and Michelle Stocker in the Department of Geosciences, the team aims to close the gap between static skeleton displays in museums and digital access to the wealth of information they possess.

"Right now, there's only static skeletons in museums around the world, so most of the interaction is passive," said Nesbitt. "You can look at a specimen or a skeleton and see its physical structure, but the only information about that animal is on a small panel in front of the exhibit. So what we're doing is making that panel more

integrative to the animal itself. You can literally scan the bones with your phone and transport into a digital environment."

The project's digital skeleton of the Teleocrater rhadinus was created from original fossils and will be 3D-printed as a freestanding skeleton that participants can interact with through an augmented reality app. Through this app, visitors can learn about the importance of the animal, how and when the animal was found, relationships between skeletons, and how the virtual experience was created.

Living over 245 million years ago during the Triassic Period and predating dinosaurs, Teleocrater was unearthed in Tanzania, East Africa, and named by Virginia Tech and other paleontologists in 2017. This creature is a cousin to dinosaurs, has a long neck and tail, walked on four crocodylian-like legs, and was approximately 6 to 7 feet long. Carnivorous Teleocrater is one of the oldest relatives of dinosaurs that has ever been discovered, and its bones are temporarily housed on Virginia Tech's campus.

"The paleontology itself is a big deal," said Todd Ogle, executive director of Applied Research in Immersive Experiences and Simulations (ARIES) at University Libraries. "With refinement, these



3D model of Teleocrater rhadinus foot courtesy of ARIES.

ideas and approaches developed in the project might just find their way into larger places like the Field Museum in Chicago or internationally known museums like the National History Museum in London. That is a big deal."

Theoretically, this augmented reality experience can be created for any fossils, including 3D-printed ones, with a digital scan.

ARIES is responsible for developing the augmented reality app as well as the preparation and optimization of the 3D models of the bones that University Libraries' 3D Scanning Studio, led by Max Ofsa, Prototyping Studio manager, scanned from original fossils. University Libraries' 3D scanning technology is highly accurate and captures not only the shape of the bones but also the texture and color. The project will make engaging experiences for Virginia Tech Museum of Geosciences visitors. The group also is working with partners in Tanzania to translate the app into Swahili.

"I got to digitally sculpt the skull, which was fun," said Nesbitt. "The ribs, however, were challenging. If the ribs don't look right, the whole animal doesn't look right. The ribs alone have taken months and months."

A team of library student employees are assisting with this project. "Our students are not only interested and engaged but capable of developing the immersive experiences," said Ogle. "Student artists and programmers, when working directly with subject matter experts, can make immersive experiences that are meaningful and impactful for others while gaining valuable experiential learning opportunities."

"This is a highly integrative project," said Nesbitt. "It's augmented reality people talking with education people, talking with scientists. Just locally, the collaboration has been amazing. What's flown out of that is a bunch of students interacting too. Showing undergraduate students how a process like this works and how much goes into reconstructing a skeleton was one of our ultimate goals."

The use of augmented reality to enhance museum experiences has been mainly in the hands of large institutions, working with corporate partners such as Google and Framestore. This team's approach is intended to make these experiences more accessible with a higher impact.

So far access to the Teleocrater skeleton has only been from one place - Tanzania. "Since we are scanning the bones, we will be able to send the files to anyone in the world instantaneously," said Nesbitt. "It's like an open source dinosaur relative. That's the way I like to think about it. It's not like anyone has been hiding these specimens, but there's only a few bones of many of these and they are only in one place in the world. So even for scientists, a lot of the information about Earth history is not easily accessible, which is a shame. Digitally though, it could be looked at anywhere in the world with an internet connection, and that's what we are trying to achieve."

The team is working with Phyllis Newbill, associate director of educational networks in the Center for Educational Networks and Impacts, part of the Institute for Creativity, Arts, and Technology, to make sure the educational products they produce will help learners meet instructional goals, including both knowledge-based goals and attitude-based ones.

"The project will impact the richness of experience for museum visitors who have in the past simply looked at reconstructed skeletons in three dimensions," said Newbill. "This project will allow learners to access just-in-time information about the skeleton in context. Because the 3D model will be so accurate, other educational organizations can 3D-print a copy of the skeleton. The accessibility of the information reaches new levels and improves the educational experience while making the information more accessible."

"We are stubbornly sticking to our goal of accessibility, which means delivery via the web," said Ogle. "That poses challenges for augmented reality development today, but we believe that it is the direction we must head for the future." ■



Members of ARIES work to create a virtual sculpture of the Teleocrater rhadinus. Photo by Chase Parker.

Kayla Jones

transformed by technology

By Chase Parker

KAYLA JONES '23, a student employee in the University Libraries, is surrounded by technology that sparks creativity and enhances critical thinking skills. When she graduates in May with a degree in psychology, she will bank the skills, knowledge, and creative experiences she gained while helping faculty, staff, students, and community members in using technology in the library's studio network.

"Being in this position and learning more about these types of technologies has guided me into figuring out what I want to do post-grad," Jones said.

Jones has worked with the University Libraries' studios since September of 2021. She assists library patrons in the Media Recording Studio and Studios Technology Lending Desk and serves as a consultant, problem-solver, and project assistant.

Each of those studios is packed with hardware, software, technology, and equipment that can broaden a user's skill set. Working in that environment has opened Jones' eyes to new possibilities for how technology can be applied in many different professions.

"When I started learning more about the technology here, it kind of sparked my interest in learning more about technology in general. And so that's how I found my love for analytics. It inspired me to take a class on it and learn more about what a computer can actually do with information," Jones said.

Jones hasn't always been as tech-savvy as she is now. She admits that learning how to use the technology in the studios was like learning a foreign language. Ellen Boggs, her manager and studios network coordinator, says that Jones took the initiative to get familiar with the technology in her own free time.

"I remember when she first started working here, she booked time in the Media Recording Studio in order to train herself on the audio equipment in the space," Boggs said.



"All of our student employees receive training in their studios, but not many of them come in on their own to practice their skills."

During her time with the studios, Jones has witnessed and assisted in the creation of a wide variety of projects, ranging from music, to video reports, to her favorite – podcasts.

"I get the privilege of getting to hear some of the podcasts that the Virginia Tech community is creating. It's awesome to see people bring ideas on topics that are really important and create a way to put it all together," Jones said. "It's really cool to hear some of the different things that people come up with to try to make a change."

Working with people who combine their creativity with modern technology has inspired Jones to push her boundaries and expand her comfort zone.

"When I first started working here, I was very nervous because I had no background working with this type of stuff. But now I can look at other aspects of my life, and I'm not afraid to try new things," Jones said.

Jones says that working in the studios has opened doors that otherwise would have never been knocked on. She has grown academically, socially, technologically, and intellectually since taking on the role.

With graduation on the horizon, she says that her job has helped prepare her for the next step.

"Coming to Virginia Tech was definitely the right choice. I have learned so much and I've been able to get involved with so much. This on-campus job has been amazing," Jones said. "Graduating is a bittersweet thing. I'm sad to leave what my life has been like for the last four years, but I'm really excited for what it has prepared me for and moving on to the next step. I'm grateful." ■

“Being in this position and learning more about these types of technologies has guided me into figuring out what I want to do post-grad.”

Kayla Jones



Juliah Linzmeier

converts physical objects into digital artifacts

By Elise Monsour Puckett

INSIDE NEWMAN LIBRARY'S 3D Scanning Studio, you will see architecture major Juliah Linzmeier with a gray and blue handheld device resembling an old-fashioned clothes iron. Its flashing lights scan patrons' objects while they rotate upon a blue-and-white striped pedestal. Linzmeier uses her 3D-design skills to share these physical objects beyond library walls and into the digital world.

As a student scanning assistant in the studio, she also works with three other Artec 3D scanning machines, each one meant for scanning differently sized objects. Her favorite, the iron-shaped scanner, is portable and helpful for scanning items that cannot be moved.

"I've definitely been able to widen my computer skills through this job, but I've also been able to practice customer service and communication skills, which always helps for any positions in the future," she said.

"I have worked with individuals all throughout the community on many different projects," she said. "Many creative technologies majors or other digital design students love how scanning can bring real-life objects into virtual reality and other 3D computer models. On the other hand, many engineering students appreciate the ability to scan an object and obtain incredibly precise models and measurements of an object they are studying or working to improve."

Even local residents who are not students enjoy using the studio. "Community members love having the ability to scan their personal artwork or even scan themselves to turn into figurines or bobbleheads," said Linzmeier. "With scanning, the range of applications combined with the sheer number of people who can access it here at Newman Library, the options are quite endless.

"I definitely got a big surprise the first time I had to scan a whole person," said Linzmeier. "Much of my early work consisted of scanning fossils and dinosaur bones, which rarely exceeded the size of a pencil. So when I was told I had to scan an entire person, I was in shock."

Because 3D scanning is such a distinctive and new technology, Linzmeier's job is unique. "I often



have to explain to my friends and family what I do, because few people have been able to utilize and interact with this kind of unique technology."

Linzmeier has worked in the library since October 2021 and has loved her time in the studio. "It is so nice to be able to work on projects and have supervisors who are there to support you and answer questions, but also give you the space to learn the programs and work one-on-one with patrons who come in."

Upon graduation, Linzmeier hopes to land a job in the urban planning industry and also pursue a more commercial side of architecture in conjunction with urban planning. "I'm really passionate about the way in which architecture creates space, especially in the urban field, so I am excited to eventually pursue that when I graduate."

Linzmeier wants students to know that the library is full of free tools and resources, such as the 3D Scanning Studio, Prototyping Studio, and even technology check-outs.

"From a student perspective, I would just love to tell any current or future Hokies to take advantage of your time at Newman Library. These are four or more years of your life that are meant to segue you into the real world," said Linzmeier. "So make mistakes, take risks, be yourself, and do whatever you can to set yourself up for success. Learn who you are and who you want to be and never settle for anything less." ■



Aidan Hing

learns valuable skills

By Elise Monsour Puckett

AIDAN HING, a building construction junior, helps Hokies' digital dreams come true through his job in Newman Library's 3D Scanning studio. Hing is a University Libraries student scanning assistant and said this has been his favorite job thus far in his college career. "It's a productive desk job that lets me constantly interact with people and the community, which I love!"

Hing said his job is unique because 3D scanning is a specialized skill that focuses on bringing people's real-life objects into the digital world.

"This helps the Virginia Tech community daily as we help professors create digital resources for their students as well as helping Hokies and folks in the community complete their personal projects," said Hing. "It's a very rewarding experience knowing I'm helping so many people with their dreams."

Upon graduation, Hing, a member of the Virginia Tech Corps of Cadets and recipient of a Corps' Emerging Leader Scholarship, plans to become an officer in the U.S. Army. The contract has been signed and his goal is to work in the Army Corps of Engineers.

"The 3D scanning skills and software I use in the studio are very transferable to many jobs in the future as 3D modeling like CAD becomes evermore present," said Hing. "This applies both to the construction field I'm studying now and the Army as they modernize their technology."

Hing, who has been working in the library for nearly a year, collaborates closely with the studios' staff. "They are super supportive and I feel like they genuinely care about me as an employee. Max Ofsa makes the job fun and helps with any technical issues. Ellen Boggs really wants everyone to feel



Photo by Chase Parker.

welcome and helps with any problems on the job. It's just an all-around great place to work."

Working in 3D scanning doesn't come without challenges though.

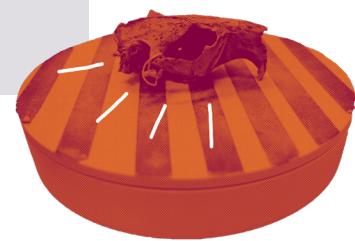
"It can be difficult learning the technology past a base level," said Hing. "It takes a lot of practice and different types of scans, in varying sizes, to improve one's skill. But after this hurdle, you really feel like you've gained a unique and valuable skill set."

Hing wants people to know that the 3D Scanning Studio is a free resource for anyone and everyone. "Start work on those personal projects," said Hing. "We're here to help. It's a super fun and rewarding experience, whether it be through this studio or one of the other five library studios."

University Libraries is home to the 3D Scanning Studio, Prototyping Studio, Media Recording Studio, Virtual Environments Studio, Project Design Studio, and Studios Technology Lending Desk. ■

“It's a super fun and rewarding experience, whether it be through this studio or one of the other five library studios.”

Aidan Hing



Millie Yopp

has a passion for fiction that inspires change

By Hannah Ballowe

MOST STUDENTS AT VIRGINIA TECH pass by the bulletin boards on campus without a second glance. But for Millie Yopp, one of the fliers in Shanks Hall advertising Virginia Tech's creative writing program caught her eye and inspired her to change course.

Yopp, now a sophomore studying literature and creative writing in the Department of English, started her career at the university as a housekeeper in Shanks Hall. Her assignment to Shanks, which is the home of the Department of English and School of Communication, was a random stroke of luck. When she accepted the position with facilities operations through the Division of Campus Planning, Infrastructure, and Facilities, Yopp began work in Shanks Hall based on building needs and housekeeping vacancies.

This was what led Yopp to the third floor of Shanks and down the quiet hallway of its atrium, where she saw a banner advertising the creative writing program. She decided to apply to the university and followed the signs telling her to become a student in the program.

"We are so excited for Millie and her new opportunities. While we are sad to lose such a valuable member of the housekeeping team, we are always encouraged to see staff get the chance to follow their dreams," said Greg Canaday, director of facilities operations – housekeeping.

Before coming to Blacksburg, after graduating from high school, she attended community college and studied information technology.

"I felt a lot of pressure to go into a STEM field," Yopp said, but her passions had always aligned with creative writing and fiction.

From a young age, she was enraptured by Erin Hunter's "Warrior" series. This middle-grade level fiction is the kind of novel Yopp hopes to write one day. She loves whimsical literature and views it as an escape.

"When I graduated from community college, I didn't work the best of jobs," Yopp said, "so I wrote short stories and read fiction as a kind of escape."

Her creative writing is a mixture between being inspired by her own life and turning those inspirations into fantastic adventures. Influenced by the "Knights of the Round Table," another literary favorite of hers, Yopp likes to incorporate fantasy into her writing to create a story that appeals to her wanderlust.

Her interest in "Knights of the Round Table" is partially what excites her about one of her classes this semester, Medieval Literature with Kenneth Hodges, a professor in the Department of English. Between this class, British Literature with Tony Colaianne, another professor in the department, and Creative Writing Fiction, Yopp's spring semester is full of classes that thrill her. Her double major in creative writing and English allows her to pursue two passions at once: reading and discussing literature, as well as writing her own creative fiction.

Since she started taking classes at Virginia Tech in the fall of 2022, Yopp has made instant connections with her professors. Aileen Murphy, one of Yopp's former instructors, describes her as a joy to have in the classroom. Yopp participates avidly in class discussions, and Murphy said her prose writing is strong. The senior instructor also expressed Yopp's care for workers' rights.

"Millie was a bright spot in my days last semester," Murphy said. "She always stopped by to chat a bit after class. It's quite an honor to have had her in my class, and I am thrilled to see what comes next in her writing and her life."

So what is next for Yopp?

She currently works in Newman Library with University Libraries' technical services, where her duties range from fixing book bindings to digitizing publications. She is considering continuing work in a library upon graduation and is entertaining the idea of pursuing a master's degree in library science. And, of course, she wants to write at least one middle-grade novel.

Yopp's choice to go back to school offered her what she referred to as a second chance. Studying both literature and creative writing, she is certainly taking advantage of that chance. In the meantime, she is enjoying her classes in the Department of English and looks forward to learning how to write better stories. ■



Photo by Leslie King.

LIBRARIAN TAPS EXPERTISE TO FIGHT HUNGER

By Chase Parker

WHEN INGA HAUGEN WAS A SMALL CHILD, her father, Vance Haugen, taught her the meaning behind the Chinese proverb “it is better to light a candle than curse the darkness.”

Throughout her life, Inga Haugen believed that it’s better to do something about a problem than complain about it and do nothing. The University Libraries’ agriculture, life science, and scholarly communication librarian said although a candle is just a small flicker of light that won’t illuminate an entire space, it is still a worthy step in the right direction of solving the issue of darkness.

“My parents’ ethos direct my footsteps. The top two values that I hold are that we need to take care of each other and we need to have fun,” she said.

Inga Haugen was raised on Springside Farm on the outskirts of Canton, Minnesota. Vance Haugen was an Extension farming agent for the University of Wisconsin, and her mother, Bonnie, ran their 100-head dairy farm.

Agriculture and self-sustainability was her traditional foundation, and she learned valuable lessons with that type of upbringing. When Inga



Inga Haugen, University Libraries agriculture, life sciences, and scholarly communication librarian. Photo courtesy of Inga Haugen.

her family farm to explore educational and career opportunities. In December of 2014, she found a new home at Virginia Tech.

Blacksburg is roughly 1,000 miles away from the family farm. But that distance couldn’t separate her from the selfless values that her family instilled in her as a child. Her commitment to her family’s ethics became evident during a conversation with a friend about food insecurity in Haiti.

 **20%** OF HAITI’S YOUTH IS AFFECTED BY MALNUTRITION

“I was talking with a friend who was telling me about this trip down to Haiti. He told me about some of the information he was given about agriculture options to help fight the hunger that they faced. Because of my agricultural background, I thought that I could help,” Inga Haugen said.

Haiti has some of the highest reported rates of underweight children in Latin America. Roughly 20 percent of the region’s youth is affected by malnutrition, which affects a child’s ability to grow and develop.

Hunger is a long-standing issue for Haitian communities. Inga Haugen knew that she couldn’t solve the entire problem, but she could light a candle.

In 2017, she visited Haiti to see if there was something she could do to help provide a source of food, and it didn’t take long for her to figure out a plan.

“We found the breadfruit trees,” she said.

Breadfruit is a superfood native to Haiti that is packed with antioxidants, minerals, vitamins, and protein. It is also versatile, as it can be used in stir fry, pastries, and flour.

Inga Haugen assembled a team of medical affiliates and local leaders and partnered with The Trees That Feed Foundation to create the breadfruit project. However, the team wasn’t complete without the man who gave Haugen her farming knowledge and the moral impulse to help others – her father.

“I thought of him immediately. I’ve got skills, and he’s got a lot of background and experience. It was very special to be able to work with dad on a project like that,” she said.

Vance Haugen’s main role was to help set up research plots and develop a strategy with Haitians and medical missionaries to plant the breadfruit trees.

“I thought it was great that Inga was involved in something like this. I felt like I could be useful for the project, and it was just a hoot to be able to go and work there with my daughter,” Vance Haugen said.

In addition to planting breadfruit tree saplings, Inga Haugen and her team supplied the locals with training and education on farming and nutrition. She also identified leaders within the communities that could continue the project for years to come.

“We’ve got 152 farmers that have signed on to this program to be able to connect with their communities. Each of those farmers have signed on for a five- to 10-year hitch because they are committed to raising the breadfruit tree saplings, and we’ve planted about 400 trees. About 25 percent of the fruits that come from those trees will be given to food insecure people at the discretion of the community health workers,” Inga Haugen said.

The breadfruit project is also benefiting the academic world. In April, Inga Haugen and her team published an article in the Journal of Global Health Reports describing their efforts behind the project, demonstrating that agricultural intervention can help with global health concerns.

 **152** FARMERS SIGNED ON TO PARTICIPATE FOR 5 TO 10 YEARS

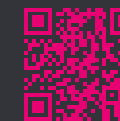
 **400** TREES PLANTED

 **25%** OF THE FRUIT GROWN WILL BE GIVEN TO THOSE WITH FOOD INSECURITY

“One of the editors told me that he will be using it as a case study in the class he teaches. And so this is big, and we can reference this. We can put this in grant proposals. The article shows that the project worked. This can help people,” she said.

There are still more trees to plant and people to feed. But as long as the need exists, Inga Haugen will be looking for ways to lend a helping hand.

“I don’t want anybody in the whole world to go to bed hungry,” she said. “And I can’t solve the whole world, but I can do some things with the resources that I’ve got to be able to move forward. It’s better to light a candle than curse the darkness.” ■



WATCH THE VIDEO
bit.ly/s23breadfruit



Patterns give insight into cyberbullying

By Chase Parker

NOT EVERY TWEET IS SWEET. According to recent studies, 75% of adults claim to have witnessed cyberbullying, while another 40% say they've had to experience it firsthand. Furthermore, online harassment can have a devastating impact on children, as many report suffering from mental illness and depression as a result of it.

A small team of researchers within University Libraries at Virginia Tech is looking into possible ways to combat this harmful social media trend.

Chreston Miller, data and informatics consultant at University Libraries, along with computer science major Deep Datta '24 and computational modeling and data analytics major Ishana Garuda '25, are conducting research to find out if there are any patterns that can indicate when cyberbullying surfaces the most on Twitter.

"Nowadays, cyberbullying is an issue and it's so easy to do because people hide behind a screen so no one can see them face-to-face. People feel more freedom to say what they want. If we want to help combat cyberbullying, we need to conduct research that can help us predict when it's going to happen," Miller said.

The team has strict criteria in place to ensure that the accounts that they analyze will provide valuable samples. In order for a Twitter account to qualify for the data pool, it has to have tweeted a minimum of 1,000 times, been active for at least one year, and have 100 followers or more.

"We have to be very careful about how we choose the tweets, because we want to make sure that these are people that tweet often enough that we could get a good profile over time," Miller said.

After gathering their sample pool, the research team files the tweets into programs that have intelligent software capable of classifying

them into three categories: negative, positive, or neutral.

From there, the researchers dive deeper into the tweets to seek behavioral patterns.

"We want to see if circadian rhythm sleep affects what we call civility levels in a person and see if that can considerably affect how a person thinks and acts, and if that becomes a factor with how we can identify cyberbullying within social media platforms such as Twitter," Datta said.

ensure that their data set was large enough to reach a conclusion.

The impact of this project stretches beyond the scope of social media. Datta and Garuda both have goals of entering a profession involving data analysis and research. This experiential learning aspect of the project has given them a glimpse into what their futures may look like.

"Getting real-life research experience, especially as an undergraduate, is very important," said Datta.



Doing this research allows me to gain certain skills necessary to increase my critical thinking, and maybe in the future use it to conduct my own research.

Deep Datta

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The team believes that if it can identify indicators that predict when online harassment is most likely to occur, then the findings have the potential to make a positive impact on social media outlets like Twitter.

"A big impact from this research could be gaining a better understanding of how people are talking on these platforms and seeing how much of this information being consumed is toxic, civil, uncivil, and bullying. If we find that a significant portion of this cyberspace is uncivil, we can conclude that there's a problem going on, and then solutions can be made once the problem is identified," Miller said.

This research project is designed to expand over the course of two semesters, fall 2022 and spring 2023. Once the research is complete, the team will have analyzed millions of tweets to

"Doing this research allows me to gain certain skills necessary to increase my critical thinking, and maybe in the future use it to conduct my own research and pursue even more projects that can potentially have a positive impact on the problems that we face in this world."

"Since I am a data scientist and all of my classes are focused around that subject, this project helps apply all that I am learning in class and is helping me get ahead of the curve," said Garuda. "This experience is helping to improve my soft and hard technical skills." ■



Chreston Miller, Deep Datta, and Ishana Garuda discuss Twitter data they collected. Photo by Chase Parker.



SEE THE VIDEO
bit.ly/s23cyberbullying

ANNE M. BROWN

RECEIVES NSF CAREER AWARD

By Ann Brown

MILLIONS OF PEOPLE worldwide have incurable Alzheimer's, Parkinson's and other diseases caused by fibrous deposits called amyloids. Amyloids attach themselves to organs such as the brain, liver, lungs, or heart or spread throughout the body, which can lead to these diseases, generally called amyloidosis. Treatments for these diseases include targeted therapies, chemotherapy, and even organ transplants.

However, much is unknown about amyloids on the molecular level.

Anne Brown, University Libraries' assistant professor, science informatics consultant and health analytics coordinator, and affiliate of the Department of Biochemistry, received a five-year, \$800,000 National Science Foundation Faculty Early Career Development (CAREER) award to use her molecular dynamics simulation expertise to shed more light on the differences between amyloids that harm and those that don't.

"Amyloids serve a variety of roles in physiology and can be both functional and cytotoxic. Many are involved in signaling - helping control responses to hunger and pain, as an example," said Brown. "Amyloids are also naturally occurring in bacteria,

forming biofilm networks that materials scientists are using as the basis for new sustainable materials."

However, the same amyloid proteins that regulate hunger cues can mutate, misfold, and disrupt cell functioning. Brown will use computational

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Anne Brown works with participants of 2022 TechGirls. Photo by Ray Meese.

career_award.txt

modeling and high-performance computing resources to investigate the mechanisms of amyloid folding in the presence of membranes.

Kelsie King, a doctoral student in genetics, bioinformatics, and computational biology, has recently been the first author on three publications on this topic and is the lead graduate student for Brown's project.

"The membranes in various tissues are different. We would like to see how the membrane environment, or microenvironment, affects the shapes of amyloid aggregates. These microenvironments could dictate function and mechanisms involved in amyloidosis," said Brown. "Eventually this could be used as a starting point for researchers looking to target and prevent these interactions."

Brown is interested in this area of amyloid research for many reasons.

"I am interested in amyloids on multiple levels - the challenge they present in understanding fundamental protein biochemistry, the similarities and differences of functionality and utility across amyloids, and then the multidisease health connection. Alzheimer's, especially, is something I've studied at a clinical level and at the atomistic level," said Brown. "That is why I started with amyloid beta. Studying a concept from atom to person opens your perspective, allowing you to consider solutions that can impact multiple aspects of disease progression.

The CAREER award is the National Science Foundation's most prestigious award for early career faculty, encouraging them to serve as academic role models in research and education and to lead advances in the mission of their organization. To satisfy the award's requirements, CAREER recipients must find ways to integrate education and research into their projects, as well as conduct outreach.

anne_brown.png



Anne M. Brown. Photo by Chase Parker.

Brown is excited about this award because it will help her create a different way to study these confounding protein byproducts through atomistic simulations rather than traditionally difficult microscopic wet lab experiments. Then, she will share her processes as a platform for enhancing STEM education. Her work will elevate undergraduate research programs, assist in the development of interdisciplinary training modules, and expand the program Experience in Molecular Modeling and Informatics that she created at Virginia Tech.

"At the conclusion of this five-year project, I will create substantial content and student training programs, assess them, and make them openly available for students and faculty across the world," said Brown. "This project will provide an essential foundation for the advancement of biological knowledge related to amyloid proteins and simultaneously train and motivate future generations of scientists to use data and computation to expand their knowledge of biological phenomena." ■



University Libraries Dean Tyler Walters appointed board chair of Academic Preservation Trust

By Ann Brown

UNIVERSITY LIBRARIES DEAN Tyler Walters was recently appointed governing board chair of Academic Preservation Trust (APTrust), a consortium of colleges and universities across the country committed to providing a preservation repository for digital content and developing related services.

The University Libraries at Virginia Tech has been a member of APTrust since 2014, and Walters began his service as a board member soon after. This valuable membership leverages expertise, infrastructure, and financial resources across member universities to collaboratively preserve digital content.

“Preserving digital content, whether it’s born digital or converted from physical items, requires deep technical infrastructure, technical and curatorial knowledge, and financial resources. All of these are typically more than any one institution possesses,” said Walters. “The main value is in supplying our universities with a reasonable, practical approach to preserving our digital materials for decades to come, and longer than that in many cases. Plus, through the APTrust we are improving our knowledge as we share with one another our perspectives, experiences, and skills.”

Walters understands digital preservation well and has previously served as chair of the board for DuraSpace (now LYRASIS), a board member

for Educopia and the MetaArchive network, and the first steering committee chair for the National Digital Stewardship Alliance established by the Library of Congress.

Challenges abound in the technical, human resource, policy, and financial areas of digital preservation work.

“APTrust has a solid technical base and a core technical team that members trust and rely on — we are in good shape. The most immediate challenge I see is the costs involved,” said Walters. “They stand in the way of all of us preserving a relatively small subset of our digital collections versus all of them. We need to work at scale, which includes innovating around the finances of preserving a great deal of content. This is a major challenge that I think about quite often.”

Walters looks forward to his role in helping to guide future developments in digital preservation as the governing board chair.

“I plan to help guide the ongoing, steady improvement in technical infrastructure, best practices, and policies deployed by the APTrust and its members. As each year goes by, we get better at what we do,” said Walters. “I want to see that trajectory continue and stay open to considering any significant, new opportunities that might come our way.” ■



Gail McMillan honored with emerita status

By Mark
Owczarski

GAIL MCMILLAN, director of scholarly communications and professor of University Libraries at Virginia Tech, has been conferred the title of professor emerita by the Virginia Tech Board of Visitors.

A member of the Virginia Tech community since 1982, McMillan made significant contributions to electronic theses and dissertations through her work directing the software development on a project that advanced the university as an international leader in electronic theses and dissertations. Through the project, Virginia Tech became the first institution to require open access to electronic theses and dissertations.

She also made significant contributions to open repositories by directing the team that established Virginia Tech's open access institutional repository, VTechWorks, and through her involvement in sponsored research focused on the curation and preservation of institutional repository content.

In addition, McMillan advanced scholarly communications through her management of the Open Access Subvention Fund, her work in digital libraries and archives focusing on open access journal publishing, and her service and scholarship focusing on electronic theses and dissertations, digital curation and preservation, institutional repositories, open access policies, library subvention funds, and inclusion and diversity in libraries.

Throughout her career, McMillan authored or co-authored more than 58 journal articles; more than 120 international, national, and local presentations; and more than 12 poster sessions.

She has participated in more than 13 sponsored research projects, served as peer reviewer for eight journals and open educational resources, served on the editorial board of six journals, and served as a consultant on more than 15 projects.

McMillan has been active in several professional associations, societies, and cooperatives, including as a founding member and member of the board of directors of the Networked Digital Library of Theses and Dissertations, a founding member of the MetaArchive Cooperative, and as a member of the American Library Association, Association of College and Research Libraries, Association of Southeastern Research Libraries, Digital Library Federation, International Archive of Women in Architecture, Library Publishing Coalition, National Digital Stewardship Alliance, OCLC, Open Repositories, Southeastern Universities Research Association, VIVA: Virtual Library of Virginia, and Society for Scholarly Publishing.

In her 40 years at Virginia Tech, McMillan has served the university community through her work in the University Libraries' Collections and Technical Services department as a cataloger, project coordinator, department head, and team leader; through her work as department head of Special Collections; and as department director of Digital Library and Archives, Digital Research and Scholarship Services, and Scholarly Communication.

McMillan received her bachelor's degree from the University of California Riverside and a master's degree and Master of Library Science from the University of Maryland. ■



Leslie O'Brien honored with emerita status

By Mark
Owczarski

LESLIE O'BRIEN, director of Collections and Technical Services and assistant professor of University Libraries at Virginia Tech, has been conferred the title of assistant professor emerita by the Virginia Tech Board of Visitors.

A member of the Virginia Tech community since 1991, O'Brien made many contributions to the University Libraries and the university in her role as director of Collections and Technical Services by purchasing and licensing access to collections made available to the university community for the purpose of research, teaching, and learning. She also enhanced Virginia Tech's collective licensing agreements through her work with library cooperatives such as VIVA: Virtual Library of Virginia and with other Virginia institutions to share collections and bundle contracts.

In addition, O'Brien managed the transfer of collections from the University Libraries' off-site storage facility to the Library Service Center; she worked to improve library workflows through the management of multiple system migrations that involved working with vendors, liaisons, and library teams to balance the needs of users with the needs of library workers; she worked to strengthen the libraries' electronic access to materials; and she

expanded opportunities for open access publishing through participation in open access cooperatives, investments in publisher memberships that reduce article processing charges for Virginia Tech authors, and support for the Libraries' Open Access Subvention Fund.

O'Brien authored or co-authored more than 19 journal articles, book chapters, publications, reports, published conference papers and presentations, conference presentations, and poster sessions in her career. Active in professional organizations, she held leadership positions the American Library Association, Association for Library Collections and Technical Services, and Virginia Library Association.

In 2006, she received the University Libraries Faculty Service Recognition Award.

O'Brien received her bachelor's degree from Dickinson College and a Master of Library Science from the University of Maryland. ■

The emerita title may be conferred on retired professors, associate professors, and administrative officers who are specially recommended to the board by Virginia Tech President Tim Sands in recognition of exemplary service to the university. Nominated individuals who are approved by the Virginia Tech Board of Visitors receive a copy of the resolution and a certificate of appreciation.

WE ARE CELEBRATING

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

(July 1, 2021 - June 30, 2022)

- **Craig Arthur**, J Weiss, J Kabongo, and F Paige presented “Lessons Learned from 5 years of VTDIC” at the 21st Annual Conference of the Engagement Scholarship Consortium.
- **Lisa Becksford** wrote a refereed journal article “Teacher, Librarian, or Both? A Quantitative Investigation of Instruction Librarians’ Teacher Identity” published in *College and Research Libraries*.
- K King, D Bevan, and **Anne Brown** wrote the journal article “Molecular Dynamics Simulations Indicate Aromaticity as a Key Factor in Inhibition of IAPP (20-29) Aggregation” published in *ACS Chemical Neuroscience*.
- **Cozette Comer** and J McElfresh presented “Synthesizing services: Sharing and comparing systematic review and evidence synthesis services in academic libraries” session at MLA in May 2022.
- **Julia Feerrar** wrote the refereed journal article “Bringing Digital Well-Being into the Heart of Digital Media Literacies” published in the *Journal of Media Literacy Education*.
- **Kelsey Hammer** presented “Improving GIF Use In the Classroom” at the Lifelong Information Literacy Conference.
- L Salsabil, J Wu, MH Choudhury, **William Ingram**, EA Fox, SM Rajtmajer, and CL Giles published “A Study of Computational Reproducibility Using URLs Linked to Open Access Datasets and Software” in *Companion Proceedings of the Web Conference 2022 (WWW ’22 Companion)* at the 2nd International Workshop on Scientific Knowledge: Representation, Discovery, and Assessment.
- **Ellie Kohler** published the paper “Mining Library Chats: Sentiment Analysis and Topic Extraction” in the 14th International Conference on Performance Measurement in Libraries Book of Proceedings.
- Y Sarason, L Tegarden, and **Ellen Krupar** wrote the refereed journal article “Identity and Strategy as a Duality: The Cases of IBM and Corning in the Commercialization of Fiber Optic Technology” in the *International Journal of Technology Management*.
- **Edward Lener** wrote a book chapter on earth sciences in *Magazines for Libraries*, 30th edition.
- **Kara Long** and H Calkins presented “Developing a Metadata Interview” at the Digital Library Federation Conference 2021.
- **Rachel Miles** presented “Follow the Yellow Brick Road? Overcoming Beliefs in Wizard-Conjured Data and Metrics” at the Bibliometrics and Research Impact Community (BRIC) Conference.
- **Chreston Miller**, J Lahne, and L Hamilton wrote a refereed journal article “Sensory Descriptor Analysis of Whisky Lexicons Through the Use of Deep Learning” published in *MDPI Foods*, a special issue of the journal *Foods*.
- **Aaron D Purcell**, **LM Rozema**, **Anthony Wright de Hernandez**, and **John M Jackson** wrote and published the book “No Ordinary Moment: 150 years in 150 images.”
- **Amanda MacDonald** and **Rachel Miles** wrote the chapter “Teaching Undergraduates to Collate and Evaluate News Sources with Altmetrics” in the book “Teaching About Fake News: Lesson Plans for Different Disciplines and Audiences.”
- **Chreston Miller**, **Michael J. Stamper**, J Lahne, and L Hamilton wrote the chapter “Predictive Modeling” in the book “Text Mining for Information Professionals.”
- Daniel Chen, **Jonathan Briganti**, and **Anne Brown** wrote the chapter “Teaching Data Literacy Skills and Building a Community of Practice Through University Libraries” in the book “Teaching Research Data Management”
- R Browder, **Peter Potter**, **Joe Forte**, T Cadette, and N Brantuo presented “Power, Publishing, and the Digital Revolution” at the Virginia Humanities Conference.
- **Kelsey Hammer**, **Julia Feerrar**, **Kirsten Dean**, and **Katlyn Griffin** presented “A Framework for Incorporating Digital Literacy into your Course” during the Conference on Higher Education Pedagogy.
- **Cozette Comer** and **Nathaniel Porter** and student employees **Jennifer Kirsch** and **Matthew Cagle** presented “Evidence-based Training in Transparency, Replicability and Evidence Synthesis: a Pedagogical Review” at the Metascience Conference.
- **Corinne Guimont**, **Alan Munshower**, **Andrea Pitt**, and **Alex Kinnaman** presented “Building Bridges Through MOUs: Partnering in Digital Scholarship Sustainability” at the Bucknell Digital Scholarship Conference.
- **Jonathan Bradley**, **Max Ofsa**, and **Patrick Tomlin** presented “Pre-professional Development: Managing Student Employees for Career Growth and Service Innovation” at the The Conference on Academic Library Management.
- **Alex Kinnaman** and **Yinlin Chen** presented “Building a Culture of Reuse: An Analysis of Reusable Software and Policies for Institutional Libraries” at the 17th Annual Digital Curation Conference (IDCC).
- **Gail McMillan**, **Jonathan Briganti**, **Brittany Dodson**, **Inga Haugen**, **Ron Mecham**, **Andi Ogier**, **Shannon Phillips**, and **Anthony Wright de Hernandez** wrote the refereed journal article “Developing a Plan for a More Diverse, Inclusive, and Equitable Library at a Research I Land-grant University: An Exploration of the Diversity and Inclusion Strategic Planning Process in the University Libraries at Virginia Tech” in *Library Diversity and Residency Studies*.
- N Roofigari-Esfahan, C Porterfield, **Todd Ogle**, T Upthegrove, S Lee, M Jeon wrote the paper “Group-based VR Training to Improve Hazard Recognition, Evaluation, and Control for Highway Construction Workers” for the IEEE VR 2022 Workshop: XR for Industrial & Occupational Supports (XRIOS).
- A Joshi and **Virginia Pannabecker** presented “Institutional Data Collaborations

and Education to Share Faculty Impact” at AIR Forum 2022.

- **Jonathan Petters** presented “Data Curation and Metadata Completeness - an Institutional Repository Perspective” at DataCite Open Hours.
- **Aaron D. Purcell** published the edited book “Lost in Transition: Removing, Resettling, and Renewing Appalachia.”
- T Moye, M Rivas-Rodriguez, C Dona-Reveco, J Pedota, and **Roberto Silva** participated in the panel “Voces of a pandemic: Lessons from the field” at the 2021 Oral History Association Annual conference.
- **Jade Snelling** presented “Recovering a Lost Cultural Past: Overcoming Archival Silence” at the IAWA Symposium.
- **Steven Tatum** presented “A Mid-century Modern House Wins a Companion: Documenting the Conversion of a 1950s Development House to a Guest House and Art Gallery for the Currie House” at the Visual Resources Association Annual Conference.
- M Whitehead, D Askey, D Bourne-Tyson, K Estlund, S Haigh, C Stewart, K Tancheva, **Tyler Walters**, J Muilenburg, and J Ruttenberg published the ARL/CARL Joint Task Force on Research Data Services: Final Report.
- **Anita Walz** presented the keynote “Collaboration in Open Education” at the OpenCon Cleveland 2022.
- Y Jin, X Wang, EA Fox, **Zhiwu Xie**, A Neogi, RS Mishra, and T Wang wrote the refereed journal article “Numerically Trained Ultrasound AI for Monitoring Tool Degradation” in *Advanced Intelligent Systems*.



Campers creating from cardboard at Maker Camp in 2022. Photo by Chase Parker.

MAKER CAMP RETURNS SUMMER 2023!

Maker Camp is a four-day camp for students age 10-14. Our mission is to get students engaged in hands-on, creative collaboration. Each year, we issue a challenge for campers to build something out of found materials (cardboard, bottle caps, etc.), a Raspberry Pi computer, and small 3D-printed parts. Then, we practice design, 3D printing, coding, collaboration, and presentation skills. Finally, campers form teams, ideate, build, and present their design in front of an audience.

Maker Camp is made possible by a team of creative professionals from the University Libraries, ICAT, Pamplin College of Business, College of Engineering, and College of Architecture and Urban Studies’ School of Visual Arts.

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