

ENCOUNTERS

VOL. 1, ISSUE 1 | SUMMER 2023



INNOVATING INFORMATION ACCESS

*University of Oklahoma Libraries forges innovative paths
to enhance user access and experience*

*OU students Cooper
Galloway and Daniel Arias
consult with Karie Antell,
head of library instruction,
for their class research
projects.*



UNIVERSITY LIBRARIES
The UNIVERSITY of OKLAHOMA



GONE ARE THE DAYS OF HUSHED BUILDINGS DOMINATED BY SILENT ROWS OF BOOKSHELVES AND FEW OPPORTUNITIES TO ACTIVELY ENGAGE IN SCHOLARSHIP.



Welcome to the inaugural issue of *Encounters*, the University Libraries’ magazine introducing the programs, initiatives and people supporting OU’s advancement of student success and research.

Modern libraries are dynamic, engaging spaces — both online and in-person. Gone are the days of hushed buildings dominated by silent rows of bookshelves and few opportunities to actively engage in scholarship. Today, in the University of Oklahoma Libraries, students, faculty and visitors can brainstorm in bright collaboration spaces, consult with our expert information professionals, perform technology-enabled information analyses or work on their research projects over a cup of coffee and a snack.

The heart of what we do at the University Libraries is to serve as a platform connecting people to the information, guidance and tools reflecting the evolving information environment. Inside, we focus on two areas here illustrating innovation at OU to this end: the Digital Scholarship and Data Services and Open Information and Scholarly Communication units.

Newly reconfigured in the UL’s Digital Strategies and Innovation division, the Digital Scholarship and Data Services unit brings together what used to be three service areas: Emerging Technologies, Digital Scholarship and the Data Analytic, Visualization and Informatics Syndicate. Under new division leadership in Associate Dean for DSI Jessica Davila, users will have seamless interaction with these service areas but experience enhanced responsiveness, agility and communication in a newly harmonized suite of services. Hallmarks of our DSDS program include stunning new approaches to scholarship using 3D photography and scanning that bring ancient manuscripts in the UK to the world and the Nautilus project, a National Science Foundation-funded custom, containerized coding and applications environment that reduces barriers for students accessing high-powered computing and data resources.

The passage of a campus-wide Open Access policy in spring 2023 after a multi-year process requiring intensive stakeholder input and consideration has invigorated the UL’s Open Initiatives and Scholarly Communication. We examine the evolution of OA at OU, the value of an OA policy for our campus, and what it and our other open initiative programs can do to elevate the university’s ambitious research goals. After adding an institutional repository librarian in spring 2023, a repository developer to our DSI team, and as we near 10 years of the annual alternative textbook grant, there has never been greater promise and investment in the efforts surrounding increased access for our campus stakeholders and the public at large to the scholarship and research outputs of the University of Oklahoma and beyond.

We hope you learn more about the University Libraries and our impact in the pages that follow in our first issue of *Encounters*.

DENISE STEPHENS
Peggy V. Helmerich Dean of University Libraries

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FROM LEFT: Cale Montis, Klayton Harmon, Justin Hall, Danny Dempster, Cooper Browning, Shane Hart, Danica Jabucanin, Dania Al Ashkar, Kaci McInnis and Professor Tom Hooper

UL PRESENTATION CONSULTATIONS GUIDANCE LEADS TO PRICE COLLEGE SUCCESS

Students in the OU Price College of Business Real Estate Valuations class worked with UL librarians to prepare for the competition presentations and took home the win.

During the spring 2023 semester, the students worked in their groups of three to come up with a proposal for the Convergency Project in Oklahoma City, which they presented at the end of the semester in front of three groups of panelists. Convergence is a mixed-use development led by Richard Tanenbaum, CEO of Gardner Tanenbaum Holdings, and Mark Beffort, CEO of Robinson Park Investments. Secured on a ±4-acre site near NE Eighth Street and I-235, Convergence is positioned as the heart of Oklahoma City’s Innovation District. Plans for the development include an office tower, upscale boutique hotel and restaurant, public realm, a three-level below-ground parking garage, retail space, Stiles Park and a proposed site for Innovation Hall.

The panelists included Price College Dean Corey Phelps, the actual

developer for the Convergence Project and local business people.

Each group had 20 minutes to present their proposal and the panelists had 10 minutes at the end for questions.

Head of Bizzell User Services Magen Bednar met with each of the groups two to three times to practice and prepare. Bednar helped them go over their slides and prepare strategic visuals, then the students had a week to make edits. Finally, Bednar met in person with the groups to practice their delivery.

The day of the presentation, Bednar was able to help prepare the groups for their actual presentations.

The business professionals present that day said they wished they had presentation consultations when they were at OU because they had to learn how to present on the job, and these students were already a step ahead of other graduates because they gained the skills they needed to succeed while at OU.

UL NAMES UNDERGRADUATE RESEARCH AWARD WINNERS

Three OU students received monetary gifts in recognition of their outstanding research proposals. Their work will be added to the ShareOK institutional repository with other open access research.



CARSON POUPORE
Senior, Economics, Political Science and Business Management
“The Substantial Restraint Doctrine: A New Judiciary Standard of Analysis for Campaign Finance Disclosure”
\$1,500 winner



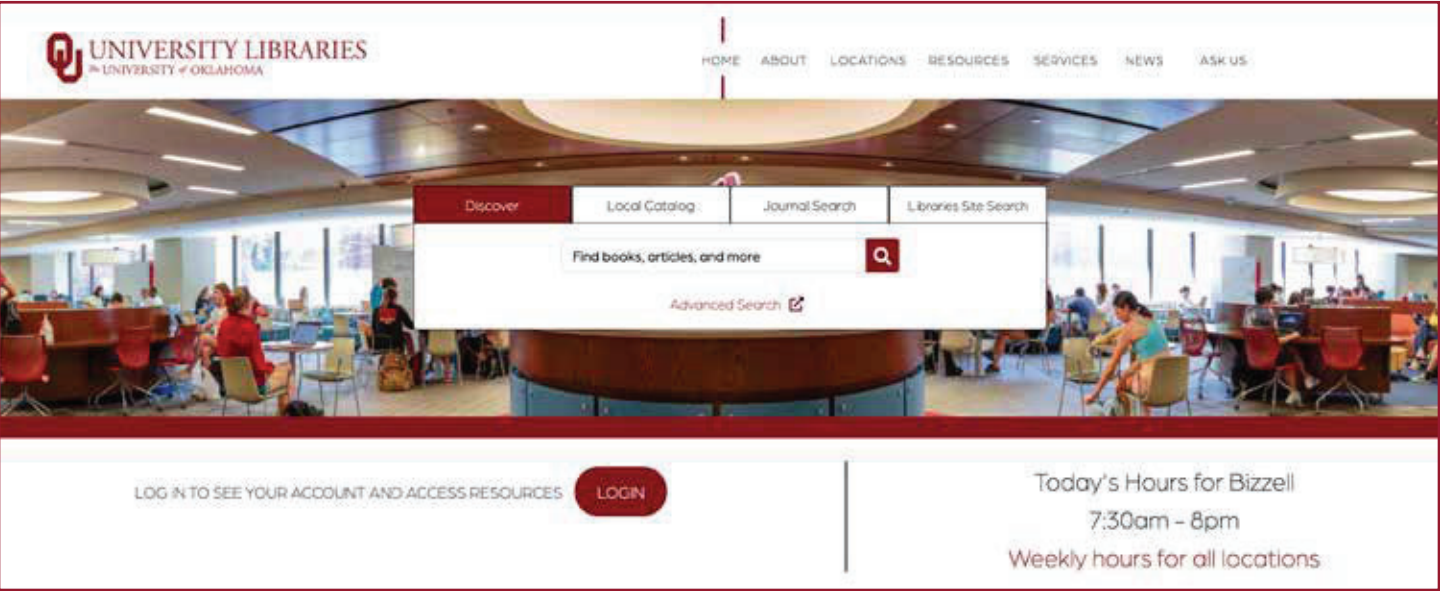
SHAYLA WITOVER
Junior, Art History and Information Sciences
“Science in Italian Renaissance Art”
\$1,000 winner



LANE MCCOY
Senior, Microbiology and Biology
“Elucidating the Mechanisms of Antibiotic Tolerance During Coinfection of Staphylococcus aureus and Streptococcus agalactiae in Chronic Wounds”
\$750 winner

CHANGES TO THE UL WEBSITE JULY 2023

Changes to the UL website will enhance user experience and access to online library resources. Users will find updated layouts, navigation, branding and organization.



OU RESEARCHERS WIN PRESTIGIOUS NEH GRANT TO DEVELOP INDIGENOUS MEDIA PORTAL

Associate Curator of the Western History Collections Lina Ortega is a member of the project leadership on the prestigious grant, one of only three given to Oklahoma researchers in 2023.

Researchers working with the University of Oklahoma Libraries and the Native Nations Center won a prestigious grant from the National Endowment for the Humanities to develop an Indigenous Media Portal at OU.

The current project leadership is composed of Amanda Minks, associate professor in the Honors College and affiliate faculty, Native American Studies; Amanda Cobb-Greetham, professor of Native American Studies in the Dodge Family College of Arts and Sciences and citizen of the Chickasaw Nation; Joshua Nelson, associate professor of English, affiliate faculty in Native American Studies in the Dodge Family College of Arts and Sciences and citizen of the Cherokee Nation; and Lina Ortega, associate curator of the Western History Collections, Native American Studies Librarian for OU Libraries and citizen of the Sac and Fox Nation.

“OU is an important hub for Indigenous media as well as Indigenous archival collections,” the project’s leadership said. “The proposal developed over the past four years through close dialogue among people working in these areas to try to bridge the gap between OU collections and Tribal heritage communities. We are humbled and excited to have an opportunity to work with Tribal partners to select

items for the digital platform and to foster cultural reconnection through new media production.”

The Indigenous Media Portal will incorporate historical photographs, radio and other audio media, starting with the OU Western History Collections, which contain invaluable oral histories, traditional singing and photographs from nearly 40 Tribes across the state. The portal will also include new videos that contextualize the archival collections through the voices of Indigenous knowledge holders.

The project is a partnership between OU Libraries and the Native Nations Center, in collaboration with a Tribal Advisory Committee and a University Advisory Committee. In this stage of development, representatives from nine Tribal Nations, eight OU departments and several areas of OU Libraries will bring a wealth of expertise and novel perspectives to the project.

The team plans to launch a pilot website by the end of 2024. In the next stage of development, they intend to expand the number of Tribes involved and the range of materials in the Indigenous Media Portal. A link to the Indigenous Media Portal will be made available on the OU Libraries website, among other places.



Lina Ortega, Associate Curator of the Western History Collections, is a project leader on the Indigenous Media Portal project that received funding from the National Endowment for the Humanities.

Ashley Smith, student success and engagement librarian, monitors the 3D printers in the UL Makerspace. Nearly 2,000 projects were printed in the Makerspace during the 2022-2023 academic year based on requests from faculty and students.



SHEVAUN WILLIAMS

INFORMATION INNOVATION AT OU

Information experts at the University Libraries set the standard for new initiatives benefiting researchers and OU's renewed focus on becoming a top-tier research institution.



FRONT ROW, FROM LEFT: Nicholas Wojcik, scholarly publishing liaison; Jessica Lumry, emerging technologies librarian; Mary Stoll, institutional repository librarian; Kristi Wyatt, emerging technologies librarian. BACK ROW, FROM LEFT: Bobby Reed, former head of Emerging Technologies; Mark Laufersweiler, research data specialist; Melissa Seelye, director of Open Initiatives and Scholarly Communication; Tyler Pearson, director of Digital Scholarship and Data Services; Karen Rupp Serrano, associate dean for scholarly communications and collection development; Morgan Briles, open education resources librarian.

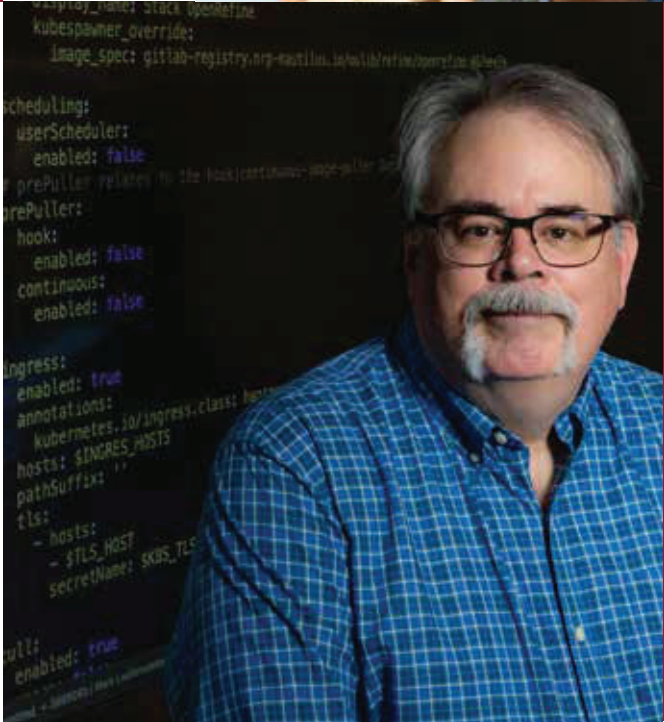
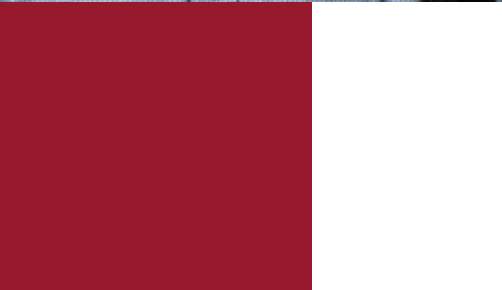


LEFT: Tyler Pearson has worked in the UL's Informatics services and was recently named director for the realigned DSDS unit. He and Lauferweiler (bottom) collaborate on research and services offerings across the university. Bobby Reed, former head of Emerging Technologies at the UL, utilized his knowledge of 3D printing, photography and virtual reality in the unit's programs.



LEFT: Jessica Davila, associate dean for digital strategies and innovation, joined the University Libraries in May 2022. She immediately began studying the workflows of her division to streamline and maximize its talent and skills, announcing Spring 2023 the reorganization of the units under her leadership.

BOTTOM: Kristi Wyatt collaborates on 3D imaging projects across the university, most recently, with Dr. Bill Endres in the English department. Their work in the United Kingdom brings ancient manuscripts to researchers around the world.



BECKY HOLLADAY



RENAMED AND RECALIBRATED

The information experts in the renamed Digital Scholarship and Data Services unit at the University of Oklahoma Libraries are still doing the same work they've always done, but with renewed focus — and big, bold new approaches to the services they provide at OU.

UL COLLABORATION BRINGS ANCIENT MANUSCRIPT TO VIRTUAL REALITY

Emerging Technology librarians partnered with OU faculty to use 3D technology to capture a 1,000 year-old manuscript in England.

by KYLE PARKER JOHNSON

An illuminated manuscript of the St. Chad Gospels created over 1,000 years ago in England survived Viking theft, the pillaging of the jewels on its cover and trading in Wales.

Now, a collaboration between University Libraries Emerging Technology librarian Kristi Wyatt and OU English faculty member Bill Endres uses 3D technology to preserve the ancient gospels, and bring it to researchers and viewers around the world.

In fall 2022, Wyatt and Endres spent a week in Lichfield, England, to take photographs, digitize and transfer the images into a virtual reality experience.

“Stopping time is impossible,” said Endres. “Cultural heritage is always aging and deteriorating.” The work completed in the collaboration between Wyatt and Endres will preserve the manuscript in perpetuity. The project sits at the crossroads of emerging technologies and historical preservation, democratizing and enriching access to manuscripts.



The nave of Lichfield Cathedral.

But even viewing the manuscript in person won’t reveal the detail of the document like the 3D system the pair used on the project. In 2010, Endres took initial photos of the manuscript using a 3D system, but since then more has been revealed in the etching of the ink.

Endres had been working for a decade on the preservation and digitization of the St. Chad Gospels when he arrived at OU in 2015. His collaboration with the University Libraries helped and improved his work in this area.

“This work would have been impossible without OU Libraries,” said Endres. The work with the UL’s Emerging Technology unit uncovered dry-point writing showing the names and evidence of a freed slave, opening knowledge paths for other researchers who can build upon the information found within the St. Chad Gospels.



The sides of the cathedral in England.



KRISTI WYATT



The library of the Lichfield Cathedral.

The preservation of the manuscripts, as they deteriorate with time, involved taking detailed images that can produce mesh files showing the minute geography of the pages. To accomplish this, Wyatt brought along a new Artec Eva 3D scanner and a camera provided by Endres. Together, they captured complex, detailed images of different views of each page.

Getting to the point of photography was not simple, though. Endres and Wyatt developed a rail system on two tripods that would maintain distance from the pages and move securely over the fragile pages. They experimented with the photography settings and were able to capture the most detailed images of the gospels to date.

Once done photographing and mapping the manuscripts, 360-degree images of the cathedral were captured, including the old Chapterhouse that held meetings in the cathedral and now holds the St. Chad Gospels.

These images provided improved worldbuilding for the virtual reality experience. After the image capture in the U.K, Head of Emerging Technologies Librarian Bobby Reed worked in the United States to use his expertise in software and app development to create eloping a virtual reality experience that would put the user in Lichfield with the ability to touch and manipulate the manuscripts of the St. Chad Gospels.

The opportunity to develop a virtual reality simulation to showcase the work done in Lichfield furthers the goal of making these manuscripts accessible to researchers and the public.

"This revolutionary access is only possible through emerging technologies and, in this case, virtual reality," Reed said.

Collapsing space and time in projects like this excites other researchers. Reed said the UL has been approached to do similar types of projects with other departments at the university to preserve other types of history and art.

The digitization of the St. Chad Gospels is part of a larger effort to preserve cultural heritage artifacts and then open access to these projects to make knowledge and research free or low cost to the public.

"As librarians, expanding access to information is one of our primary concerns," said Reed.

The Lichfield Cathedral also shares that sentiment and wants the gospels to be accessible to the masses who appreciate the historical and artistic value of these manuscripts.

Endres, Wyatt and Reed will continue this project to make it as accessible to the public as possible. This will include digital measuring tools and accessibility improvements. They have been working on 3D printing the etching of the ink on the gospels.

Endres noted the importance of this work for future research.

"If we can do it for manuscripts, we can do it with other cultural heritage items. Suddenly, people will be able to have the experience of touching fragile and treasured cultural artifacts, such as running a finger of the layered pigments of a decorated initial in the St. Chad Gospels."

“HELPING US, HELPING THE COMMUNITY”

University Libraries’ revamped digital scholarship and data services unit forges new territory with pilot project bringing innovative data technologies to OU’s campus and beyond.

by **MARYANN MARTIN, PH.D.**

Imagine writing a tuition check for your college freshman, knowing they still needed an expensive, powerful laptop for their meteorology degree to access all the technology and software needs for the major. Now imagine the university provided another, more affordable tool so that students could instead use a \$350 Chromebook and still have access to the same supercomputing programs to become proficient in their chosen career path.

University Libraries employees introduced in 2021 a pilot project, Nautilus, that poises students for success after graduation through hands-on instruction that connects them to leading technology in their fields.

The project also facilitates common access to key supercomputing processes and methods for faculty, researchers and students that could otherwise be unavailable on less powerful but more affordable computers like Chromebooks.

Simply put, the Nautilus project at OU reflects substantial innovation in access to information services for users at the university, removing substantial barriers to learning and research for scholars and students alike.

The project can also be scaled to the capabilities of other institutions. The staff at OU piloting the project have already worked to implement it with other academic institutions across the country.

Now, OU faculty, researchers, scholars and students can all work in the same computer environment, accessed via the computing cloud, without the requirement of directly installing large software that requires the processing power of expensive computers.

Spurred by discussions with researchers at the Great Plains Network, Tyler Pearson and Mark Laufersweiler at the University Libraries launched the Nautilus project, which is managed by the National Research Platform, in December 2021 at OU. They have incrementally built the program in the time since.

The Norman campus is not the sole beneficiary of this new project, however. Over 200 individuals across multiple organizations have accessed the UL pilot. Uptake in courses at OU will only increase during the 2023–2024 academic year. Pearson and Laufersweiler have worked with other smaller campuses to establish the project there, as well.

“Tyler’s and Mark’s work with the Nautilus project epitomizes innovation in an academic library,” said Jessica Davila, associate dean of digital strategies and innovation. “Their willingness to try new approaches and experiment with new ideas and tools has improved UL’s existing digital research services and has directly impacted researching, teaching and learning.”

Currently, the Nautilus project has been used in courses in technical STEM programs like meteorology, but Pearson and Laufersweiler also see widespread application in the humanities and non-scientific fields. Image-heavy digital humanities projects, for instance, will benefit from software that analyzes hundreds and even thousands of image files.

Pearson, director of the Digital Scholarship and Data Services unit at the UL, and Laufersweiler, UL research data specialist, recognized the potential of a project like Nautilus in not only easing the teaching of programs like R and Python, but also democratizing access to these programs essential to data management in scientific fields in particular.

“We would hold workshops teaching programs like ‘R’ and Python and spend a third of the time helping attendees install them in their comput-

ers,” Laufersweiler said. “We lost so much time in class, even when we requested the programs be installed before the session. Even then, sometimes their computers still couldn’t install the programs. They were too big and required too much power that just isn’t accessible to most people.”

“When part of what we teach is efficiency, losing that time at the start of every workshop was counter to our teaching,” said Pearson. “It was also a poor use of the workshop attendees’ time.”

“So, we were happy to find a better way.”

SIMPLY PUT, THE NAUTILUS PROJECT AT OU REFLECTS SUBSTANTIAL INNOVATION IN ACCESS TO INFORMATION SERVICES FOR USERS AT THE UNIVERSITY, REMOVING SUBSTANTIAL BARRIERS TO LEARNING AND RESEARCH FOR SCHOLARS AND STUDENTS ALIKE.

”



HOW NAUTILUS WORKS

Mac and iPhone users can use the iCloud on their phone or computer to backup files on their devices to automatically upload to the cloud and can be accessed across all the user’s Apple products. Pictures, notes and other products with the same user ID will be available to the Apple user with a Wi-Fi network, freeing up valuable memory and storage space on the device. Files sync with adequate data availability when signed in using the user ID.

The Nautilus project functions largely the same way. Anyone at OU, for example, with the proper university log-in credentials and access to the internet—even on their smartphone— can log in to the project and gain access to their data sets and, most importantly, the software to analyze it. Verified users can work in a “common computing environment,” sort of like multiple people working on the same Google document at the same time, in the cloud with a stable internet connection.

The requirements for high-powered computing software sprints past typical consumer laptops, which are the only computers most students can afford when they arrive on campus.

“Really, people are losing the ability to install software on their computers,” said Laufersweiler. “And if they can afford to buy the programs, their computers may still not be able to install them.”

“We wanted something that could help us and help the community.”

Gone are the restraints of a device’s memory and processing speed



Tyler Pearson

to work on the powerful programs used in high technology fields like meteorology and other sciences. Limits include poor wireless internet access or system down times. But users no longer need to download or install the programs directly onto their device. The processing and memory requirements that can crash and cripple lower-end computers are circumvented. The National Research Platform runs these programs instead, and users access them remotely through the cloud.

ONE MORE OPEN-SOURCE TOOL IN OU’S TOOLBOX

The Nautilus pilot project is led by UL employees in the Digital Scholarship and Data Services unit but joins a number of other open-source, open-access initiatives gathering steam at the OU and specifically, the Libraries.

With the passage in spring 2023 of an Open Access policy, the UL has been investing in increased resources in these areas.

The United States government also announced in 2022 that all federally funded research must be available for the public, removing the paywalls used by traditional academic publishers that close off access to the general public, and even members of a given university with a subscription.

The Nautilus project will address projects, research and resource needs for OU users and beyond different from, say, the Open Education Resources unit in the UL.

The end goal is the same, however: innovating information access using the information experts at the University Libraries for the greater good of the OU community, the state and our extended stakeholders.



Jessica Davila

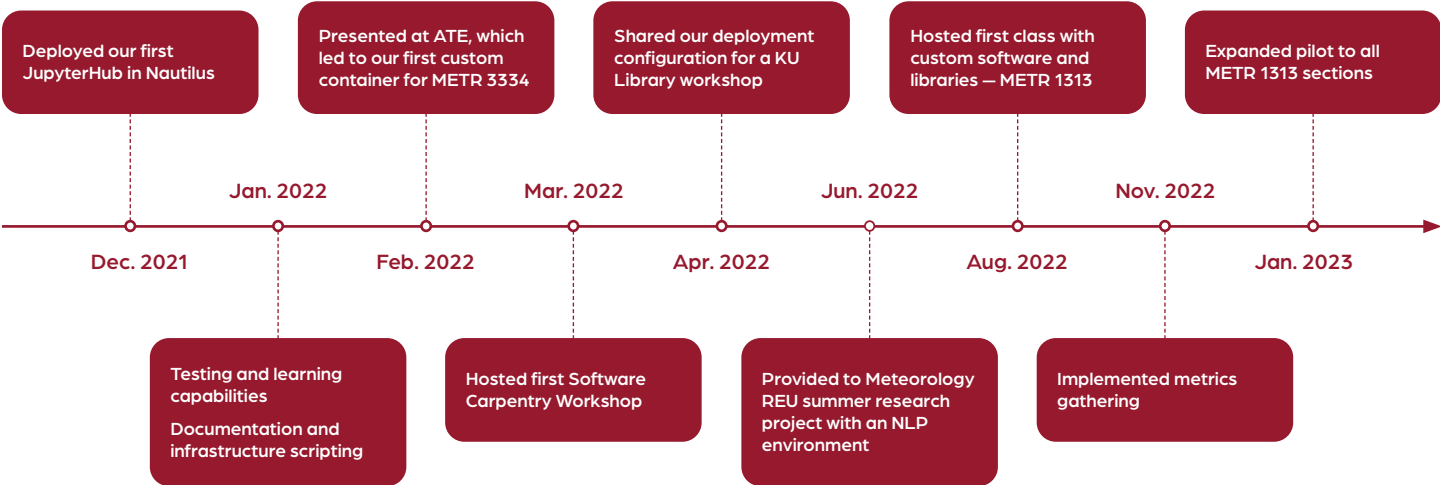
MOVING FORWARD IN OPEN SOURCE TECHNOLOGIES

Kubernetes is an open-source system originally designed by Google used in the Nautilus project and for OU's instance, managed by the National Research Platform. By design, Kubernetes allows for process automation after designing the program, leading to increased efficiency and, importantly, reproducibility.

"Reproducibility has been a hot topic in our field," said Pearson. "By setting up every app and microservice needed for, say, an introduction to meteorology course or a large-scale research project by faculty in the physics department, every person with access to the site for that course or project in Nautilus will be working on the same software and programs. For research projects with authors at various institutions, this collapses space and brings them into the same virtual place to work on their goals."

"Plus, the results and outputs are accessible, too, easing the federal government's mandate to make federally funded research publicly available."

PHASE 1 PILOT TIMELINE



KEY TERMS TO UNDERSTAND THE NAUTILUS PILOT PROJECT

Sources: plutora.com, odsc.medium.com

- Cloud computing:** Cloud computing is the delivery of computer power, database, storage, applications and other IT resources via the internet (as opposed to your computer's hard drive).
- Containers:** The natural evolution of virtualization, containerization treats each application as its own logically distinct server by virtualizing the operating system. Containers are immutable, meaning that no matter where you create it, on what hardware or underlying operating system, the container will work exactly the same.
- GitLab:** An open-source end-to-end software version control platform that can develop, secure and operate software.
- Jupyter:** Using the core programming languages supported by Julia, Python and R, it is open-source software with open standards and services for interactive computing across dozens of programming languages.
- Jupyter Notebook:** An open-source web application that allows data scientists to create and share documents that integrate live code, equations, computational output, visualizations and other multimedia resources, along with explanatory text in a single document.
- Kubernetes:** An open-source system for automating deployment, scaling and management of containerized applications.
- Open Source:** Software that makes its original source code freely available for people to use, share and modify.
- National Research Platform:** A partnership of more than 50 institutions, led by researchers and cyberinfrastructure professionals at University of California San Diego, supported in part by awards from the National Science Foundation.
- National Science Foundation (NSF):** An independent agency of the United States government that supports fundamental research and education in non-medical fields of science and engineering. The National Institutes of Health is the medical counterpart of the NSF.
- Notebooks:** An interactive computational environment in which users can execute a particular piece of code. Users can then observe the output and make changes to the code to drive it to the desired output or explore more options.

BECKY HOLLADAY



Mark Laufersweiler



OLD IDEAS, ANEW

Debates about open access to information, particularly publicly funded research, is not new. But at the University of Oklahoma, the information professionals in the Open Initiatives and Scholarly Communication Unit are diving in and doubling down on the subject after the passage of a campus-wide open access policy.



BECKY HOLLADAY



Morgan Briles

BECKY HOLLADAY

TAKING KNOWLEDGE OUT OF THE IVORY TOWER

For over a decade, OU Libraries has been working to make research and information more accessible to the public. Now, a new open access policy means that publicly funded research will be available to all Oklahomans.

Public universities in the state, including faculty salaries, are funded in part by Oklahoma taxpayers. Many of these faculty members are conducting cutting-edge research in a multitude of disciplines, from social work and education to bioengineering and public health. In such disciplines, faculty and researchers publish their work in an academic journal to get their findings out into the world. Publications can be key to promotion and tenure in higher education.

But often, Oklahoma taxpayers can't access the research—because it's behind a publisher's paywall.

"It's withholding knowledge in this kind of ivory tower and keeping it only for those who can afford it," says Open Educational Resources Librarian

Morgan Briles. Briles, who joined OU Libraries in 2022, works to provide no-cost course materials to students, many of whom struggle to pay for expensive traditional textbooks.

For a decade, University of Oklahoma Libraries has been working toward taking that knowledge out of the ivory tower and making it accessible to everyone—regardless of their economic status, educational institution affiliation or geographic location—via open access initiatives. Open access is a publishing model in which academic and scientific research is freely available to anyone in the world with an internet connection, including academic articles in open-access peer-reviewed journals.

This spring, some of the team's most recent efforts came to fruition. OU Libraries was the driving force behind the passing of a university-wide open access policy. The new policy gives University of Oklahoma scholars the right to put a pre-publication version of their academic articles into a repository that will then be openly accessible to anyone around the world.

"This policy is important because it makes the research being created by faculty at a public institution—and a flagship public institution at that—publicly available," says Director of Open Initiatives & Scholarly Communication Melissa Seelye. Seelye has been at University Libraries since 2022. She leads the team that works on open access projects benefiting both faculty, students and the public.

"I think as a matter of principle, we should be doing everything we can to make research coming out of this institution publicly available," she says.

OPEN ACCESS IS A PUBLISHING MODEL IN WHICH ACADEMIC AND SCIENTIFIC RESEARCH IS FREELY AVAILABLE TO ANYONE IN THE WORLD WITH AN INTERNET CONNECTION, INCLUDING ACADEMIC ARTICLES IN OPEN-ACCESS PEER-REVIEWED JOURNALS.



RESEARCHERS AND SCHOLARS WANT THEIR WORK TO FURTHER INNOVATION AND KNOWLEDGE, BUT PUBLISHING COMPANIES' GROWING FEES MEAN THAT NOT EVERYONE CAN ACCESS INFORMATION—NO MATTER HOW MUCH THEY NEED IT.

So why would anyone wanting access to an article in a peer-reviewed academic journal encounter a paywall in the first place? A system that was set in place years ago is partly to blame.

Historically, academic authors were rarely compensated financially when their work was published in a journal, because it was assumed they were receiving a living wage from their affiliated university. This allowed scholars to focus on their area of expertise—no matter how unpopular or niche it was—instead of writing for the market or financial gain, according to Peter Suber, a philosopher and the director of the Harvard Open Access Project. The system seemed to work for a while, with the universities effectively funding their scholars' research, which then served its purpose of furthering innovation and societal advancement. In addition, journals were sometimes published by nonprofit academic societies that had little interest in financial gain.

Faculty continued to participate in the process because they were already being paid by their universities, and because the more a professor published research, and the more that work was used and cited by others, the more likely the authors were to procure tenured positions. As a bonus, a professor publishing widely cited, exciting research elevated the university's status.

In the 1960s and '70s, however, commercial publishing companies began to acquire top-tier journals, and this is when the system began to run amok. Entities and individuals that needed access to these journals so that they could stay abreast of current research began to see subscription fees increase steadily. Universities were funding faculty to conduct research and then having to purchase access to articles from publishing companies, so that their students and other scholars could use the research. And of course, anyone else who was not affiliated with an entity with the financial means to pay for journal subscriptions was also excluded from accessing the research, unless they paid for access.

"By the early 2000s, it had become clear that this model was very problematic. It's led to a crisis in terms of accessing scholarship because of the cost of accessing these materials," says Seelye. "Independent scholars, journalists or academics in the global south, for instance—they don't have institutions behind them with funding to pay the exorbitant cost for access. Also, in some professions, such as social work, they don't have the money to pay for access to journal articles that would be very useful to them."

Seelye references a friend who works as a nurse at a small hospital outside a major metropolitan area.

"He told me he needs access to stay up-to-date in his field, but he's just going by the abstracts, because his hospital cannot afford to give him access. It's not one of these huge research hospitals with a full-time medical librarian," says Seelye. "There are just so many inequities in our society."

"Plus, the results and outputs are accessible, too, easing the federal government's mandate to make federally funded research publicly available."

A LUCRATIVE BUSINESS MODEL FOR PUBLISHING COMPANIES, AND FOR UNIVERSITIES, A SIGNIFICANT PORTION OF THEIR BUDGET

Meanwhile, the publishing companies' academic journal business model has proved to be very lucrative. It's a double-dip system where academic authors pay fees to get published after submitting an item peer reviewed by colleagues who don't receive compensa-



Melissa Seelye

NOBODY—GENERALLY SPEAKING—GETS PAID IN THIS WHOLE LIFECYCLE OF THE PUBLISHING SYSTEM IN ACADEMIA. THE AUTHORS DON'T GET PAID BY THE PUBLISHERS. THEY DON'T RECEIVE ROYALTIES. SO, THE PUBLISHERS ARE DOING LESS AND LESS, BUT THEIR PROFIT MARGINS ARE STAYING STABLE, IF NOT INCREASING ALTOGETHER.



tion, and then the same universities funding the research must pay to access the article by the institution's author.

"Nobody—generally speaking—gets paid in this whole lifecycle of the publishing system in academia," says Seelye. "The authors don't get paid by the publishers. They don't receive royalties. If the article goes viral or gets cited a lot, they get nothing financially or even symbolically for that, and increasingly, publishers aren't even offering copyediting services themselves. They're telling the authors to do it themselves or they're

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outsourcing it, and then there is very little oversight from the publishers. So, the publishers are doing less and less, but their profit margins are staying stable, if not increasing altogether.”

Elsevier, a publishing company sometimes referred to as the monopolist of the industry, owns around 3,000 academic journals and since at least 2012, has had profit margins in the 35–40% range. For comparison, Exxon Mobil Corp.’s gross profit margin in 2022 was 25.84%, according to *The Wall Street Journal*.

“Elsevier [has] multiple divisions that do all kinds of things, but that journal content — they monetize it six ways to Sunday,” says Associate Dean for Scholarly Communication and Collection Management Karen Rupp-Serrano. Rupp-Serrano has been at OU Libraries since 1990, and in addition to collection management, oversees all aspects of open access initiatives.

“Publishing journal articles is a big business, and the more rights they get, the more they can do with them,” she says.

Academic authors almost always have to sign over their copyright to the company as a condition of their article being published, although this is not always apparent to the researcher.

“They’re just sent this document with a bunch of legalese and told to sign it, and most faculty aren’t exactly well versed in copyright,” says Seelye.

In the worst-case scenarios, academic authors were not allowed to use their own published research in future work or post their articles on open access sites like ResearchGate, although Rupp-Serrano says they’ve “backed off” stringent policies like this a little.



Karen Rupp-Serrano

“For a while, if you published an article with Elsevier and it had a figure or chart, and then you wanted to use that again in another publication, they would say, ‘Well, you’ll be paying for that,’” says Rupp-Serrano.

University systems pay exorbitant fees to gain access to these journals, sometimes directly to the publishers themselves, and sometimes through databases that aggregate multiple journals. The University of California system pays an \$11 million annual subscription fee to access Elsevier’s journals alone. Individual institutions allocate a significant portion of their budget for these fees. Journal subscriptions consume a formidable majority of OU Libraries’ materials budget.

No school can afford to pay for access to every peer-reviewed journal out there, and for gaps in access, libraries often use interlibrary loan systems and other partnerships. But today, students and researchers are used to immediacy, and for a young student who is too shy to ask for a librarian’s assistance or still working on their research skills, hitting just one paywall could be a difficult roadblock to overcome.

TODAY, STUDENTS AND RESEARCHERS ARE USED TO IMMEDIACY, AND FOR A YOUNG STUDENT WHO IS TOO SHY TO ASK FOR A LIBRARIAN’S ASSISTANCE OR STILL WORKING ON THEIR RESEARCH SKILLS, HITTING JUST ONE PAYWALL COULD BE A DIFFICULT ROADBLOCK TO OVERCOME.

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ARE THE BEST IDEAS REALLY BEING DISSEMINATED? AND ARE THEY GETTING TO THE RIGHT PEOPLE?

Seelye also sees how, over the years, the public not having access to quality research has actually impacted the researchers themselves.

“The way this model has evolved has made so many faculty think that no one cares about their research, because they very rarely have the opportunity to see the public engage with their work, because it’s behind a paywall. There’s this assumption among academic authors that the only people who care about their work are the people who cite it,” she says. “But if it was publicly accessible and anyone with an internet connection could find it, you have no idea what could happen. We have no idea who’s going to come up with the next big idea.”

And while, theoretically, a journal article’s impact could be measured by the number of future citations, this isn’t entirely true, says Seelye.

“We try to say that it’s all a meritocracy, and if it’s a good idea, it will be cited a lot, and that scholar will then have really high impact metrics,” she says. “But what we don’t talk about is that the higher the profit margins or the better the marketing team of a publisher is, the more likely that that idea is going to be disseminated.”

THE START OF THE OPEN ACCESS MOVEMENT

Should information, knowledge and cutting-edge research be available to anyone—regardless of geographic location, economic status or educational background or affiliation? Or should it only be available to those individuals and institutions with the financial means to pay for access to this information? This is the fundamental question underpinning the philosophy behind open access. With the rise of the internet

in the mid-to-late ‘90s, it became apparent to many scholars and educators that information could be disseminated freely and quickly on a global scale. In 2002, scholars, university representatives, publishers, librarians, researchers and other stakeholders from around the world met in Budapest, signed a declaration and set forth guidelines, “to make research free and available to anyone with internet access and [thereby] promote advances in the sciences, medicine and health.” In 2003, more interested parties met again to sign the Berlin Declaration on Open Access. Richard Luce, dean of OU Libraries from 2012 to 2018, was one of the co-organizers for the first Berlin conference.

Around this time, University Libraries started a flurry of open access initiatives. While the open access movement had gained traction in democratizing scholars’ research, with more and more open access publishing options emerging, some publishing companies found a way to capitalize on it. If academic authors wanted to publish their articles open access, some journals began charging authors fees of anywhere from a few hundred to thousands of dollars. In response, OU Libraries started an open access fund to help faculty pay these article-processing charges in 2013. That same year, the Libraries launched an institutional repository called ShareOK that would grow to include Oklahoma State University and the University of Central Oklahoma.

SHAREOK is the joint institutional repository for the University of Oklahoma, Oklahoma State University, and the University of Central Oklahoma. It serves as the home for the intellectual output of those institutions and houses digital theses and dissertations, faculty publications, open access publications, open educational resources, institution-specific content, and much more.

Then, in 2014, University Libraries became one of the first in the country to create a librarian position dedicated solely to open educational resources. OER fall under the paradigm of open access in that they are no-cost course resources for students—often serving as alternatives to costly textbooks. OU Libraries created the Alternative Textbook Grant in 2014, providing stipends to OU professors who created OER for their students. They also began publishing open access journals edited by OU faculty.

In 2015, OU Libraries published its first open access journal, *American Review of Politics*, and has since grown to publish eight fully free and available peer-reviewed journals covering a range of topics in the social sciences and humanities fields, including architecture, higher education athletics, race and ethnicity, writing, and young adult literature.

“Publicly funded research should be publicly available. It’s that simple, and therefore critical that we find solutions to make it a reality,” said Scholarly Publishing Librarian Nicholas Wojcik, who joined OU Libraries in 2020. Wojcik leads the publishing services unit and works with faculty to create new or convert existing paywalled journals to open access. During this process, they provide continuing development and technical support to those publications.



Nicholas Wojcik

PUTTING AN OPEN ACCESS POLICY IN PLACE AT THE UNIVERSITY OF OKLAHOMA

As open access initiatives became more popular around the world, more institutions began to put in place open access policies—decrees that would encourage faculty to put a version of their article in an online repository that would be accessible to anyone in the world. Today, more than 100 institutions across the country have an open access policy, with many institutions modeling their policy after Harvard’s, which was enacted in 2008.

In 2019, a University Libraries’ committee created a task force of faculty from several disciplines to make sure they were keeping up with peer institutions around the country. They surveyed trends in open access and scholarly communication and found that the main thing holding them back from engaging on the same level was not having an open access policy in place.

For the past four years, there has been extensive outreach to faculty to explain and help draft the policy. The policy would then be voted on by the faculty senate, and if it passed, sent to the Oklahoma State Regents for Higher Education for approval.

Two of the biggest concerns among faculty members about adopting an open access policy was that they would lose their author rights, and/or that they would be sued by the publishing companies for a copyright violation. For Seelye and Rupp-Serrano, this highlighted both the publishing world’s lack of transparency and the fear they could instill in academic authors. For so many years, faculty have felt obliged to publish in certain journals, both to secure tenure and maintain relevance and favor within their university. Some faculty were unwilling to rock the boat,

even when assured that they had a legal right to publish their work as open access in an institutional repository, which over the years and under pressure, many publishing companies had consented to.

Some faculty were also unaware that for years, they had already been signing over their intellectual property to publishing companies anyways. Many academic authors were also unaware of the exorbitant subscription fees the university was often forced to pay their publishers if other researchers or students wanted to read their articles.

“Faculty don’t know this because they’ve been removed from the finished product, and the libraries are the ones paying the subscription fees,” says Seelye. “And the libraries, generally speaking, have to sign an agreement indicating that they won’t go public with the cost of these subscriptions.”

“It’s all cloaked in secrecy, which is really problematic when so much of this research is taxpayer funded,” she says. In spring 2023, the OU faculty senate passed the open access policy. It’s now awaiting approval by University of Oklahoma Board of Regents.

According to the new policy, the article version put in the SHAREOK open access repository would be what’s called an “author accepted manuscript” or “post-print” version.

“It’s essentially the same version that the journal would publish. It’s gone through peer review and the author has implemented changes based on peer review feedback, but the publisher hasn’t copy edited it, typeset it or added formatting to make it look pretty,” says Seelye. “It’s the exact same content that’s in the published article.”

Faculty can opt out — those who don’t want to make a version of their accepted article open access will not be forced to. And for those faculty who have hesitations or questions about a particular journal’s policy, the open initiatives team can assist.

Even though it took four years to pass the open access policy, Rupp-Serrano says this was actually one of the reasons it succeeded.

“We did not want to rush that process, because number one, it’s not about us. It’s not about the library. It’s about the faculty in a university,” she says. “I came across this article the other day, and it said institutions that brought up an open access policy and tried to pass it within six to 12 months, they failed. But if they took two, three, or more years, almost all of them passed it, because it takes that much time to get enough people educated. And even if they’re not excited about the idea, at least they’re not like, ‘Oh, heck no.’”

Rupp-Serrano also feels like starting an open access fund 10 years ago helped them build champions of open access early on, and she credits Rick Luce for that.

“Establishing that fund allowed us to demonstrate that we were willing to put our money where our mouth is and show that we were doing this for the community,” says Rupp-Serrano.

Rupp-Serrano, who’s been working in library and information sciences for 35 years, puts this work in historical context of her whole career.

“I think, morally, it’s the right thing to do — that we’re trying to make more intellectual output freely available and open to the world,” she says. “So, in that respect, this part of the job is probably more satisfying than it’s ever been.”

Passing the open access policy, even though it took several years to put in place, was actually the easy part, according to Seelye.

“One of the libraries’ strategic goals is to support the open access policy by providing the infrastructure needed. That’s like the behind-the-scenes work that’s invisible, and that’s the hardest part — so that’s what we’ll be focusing on for the next couple of years,” says Seelye.

In January 2023, the open access initiatives team brought Mary Stoll



Mary Stoll

on board as repository librarian to continue growing the Libraries’ open initiatives.

OPEN ACCESS IS GAINING A LOT OF TRACTION, BUT THERE ARE STILL INEQUITIES IN THE DISTRIBUTION OF KNOWLEDGE

The good news is that increasingly, publishers are allowing authors to make their articles open access by putting it in their institution’s repository, but not in every discipline. Journals in the social sciences and humanities fields have been slower to allow for these practices than the STEM fields.

COVID brought to the forefront the need for immediate access to information. In August 2022, the White House Office of Science & Technology Policy issued its own open access policy: a memorandum called “Ensuring Free, Immediate, and Equitable Access to Federally Funded Research.” The memorandum stated that any taxpayer-funded research should be made immediately available to the public to access, use and cite in any way they saw fit. Previously, there had been a 12-month waiting period on any taxpayer-funded research before it was made open access. This will go into effect in 2025.

Students attending two-year colleges that typically have significantly less resources than four-year public universities, and definitely have

smaller budgets than well-resourced private institutions, would ostensibly be the beneficiaries of the open access policies as their schools have less money to pay expensive journal subscription fees.

Ann Raia, director of librarian services at Oklahoma City Community College, has noticed a significant uptick in articles published open access. Recently, their systems librarian reported that for all of their interlibrary loan requests they received from students, the librarians were able to locate an open access version of the article about 20% of the time. Raia also notes that private citizens at home can access a fair amount of research through the Oklahoma Department of Libraries database.

But access fees to databases go up every year, and she’s also noticed that databases are dropping access to certain journals more often.

Although open access does break down a lot of knowledge inequities, Seelye says that it doesn’t address one other inequity: disparities in internet access, also referred to as the digital divide.

“Even in the U.S. and Canada, there is still a digital divide. Many people

don’t have reliable access to the internet, and having access to knowledge and information gives people power, and empowers them to make decisions,” she says.

Many of OCCC’s students come from lower-income backgrounds and are more likely to be affected by disparate internet access than OU students. For Raia, OU’s new open access policy is welcome news, but more from a philosophical or macro view, because it doesn’t exactly address the immediate needs of her students. For the majority of OCCC students’ academic needs, the state of Oklahoma gives the college enough money to give students adequate access to journal articles. The question is, if she had just a small slice of that budget back—if her library didn’t have to pay exorbitant subscription fees and the state could finance something else—what could they do with that money instead?

“For our students, I wish we had more money for technology lending. Most of our students are still trying to do homework on their phone or can’t afford big data plans or Wi-Fi. We have 50 hotspot devices that we can loan out, and every morning, they’re gone within an hour,” says Raia.

WHY OPEN ACCESS?

by MARY STOLL
OU INSTITUTIONAL REPOSITORY LIBRARIAN

I started working for OU Libraries as the institutional repository librarian in January 2023. I started my career in academic libraries over 10 years ago, working in the circulation department at the University of California, Santa Cruz, where I learned how to create services that truly embrace and reflect the needs of library users.

I loved feeling so connected to my community, and I let that connection drive the projects my team and I worked on. I took that spirit with me when I left to pursue my MLIS degree, where I primarily focused on digital archives. I totally fell in love with being in the weeds of creating digital spaces that are intuitive, functional and reliable. I enjoy getting to figure out what makes something tick, and if I can, figure out how to make it even better.

Here at OU, I feel like I get to combine all the skills I learned both at UCSC and in grad school into one job, and that is a really lucky thing to find, I think.

But it’s more than just the practical stuff. I feel really honored to be the first institutional repository librarian for OU Libraries, especially at a moment where the campus community is pushing to make its research open. In my role, I am responsible for connecting the OU community with SHAREOK, our institutional repository, and advocate for our platform so that our community can rely on us to preserve their work and make it freely available to a global audience. It’s a big task, and some days are really challenging.

But those hard days are worth it because I feel like I am working toward something that can really make a difference not just for OU, but for Oklahoma. Information is meant to be free. And access to that information is a fundamental human right, one that so many other human rights depend upon. Without information, we cannot make progress as a society, whether that be toward better medical care, developing new technologies, learning more about our histories, or a million other kinds of innovation. I get to be a part of making Oklahoma’s scholarship available worldwide and help connect it to people that really need the information we are discovering here. And I am really grateful to get to do that.

LIBRARIES, LIBRARIANS SHOULD EVOLVE WITH MODERN USERS

by KAREN RUPP-SERANO

ASSOCIATE DEAN FOR SCHOLARLY COMMUNICATION AND COLLECTION MANAGEMENT

In 1990, I was thrilled to join OU as a social sciences librarian; one of the best parts of my job was selecting materials, title by title, for the library. Today I serve as the associate dean for scholarly communication and collection management. Engaging in the creation of knowledge and materials stands at the forefront of libraries, and library materials selection has evolved to empower users to make many of our purchase decisions based on their needs. Sometimes I have found this ride to be a bit bumpy, but certainly not boring.

Over the course of my career, libraries have shifted from acquiring print materials 'just in case' there might be need for them to acquiring electronic and print materials 'just in time' for users. The last few decades have seen us purchase physical materials exclusively, add online materials to the mix, and now support the creation of open materials that are freely accessible to all users. Think about it: we aren't tied to a cord when we make a phone call anymore, we don't have to fill out a paper form to complete our taxes...why wouldn't libraries and librarians evolve to meet the needs of modern users just as other institutions have?

For a sense of how we got to the library of today we have to step back to the post-WWII world, when money poured into higher education. University researchers authored more books and articles, and libraries acquired a substantial portion of those publications to build massive physical collections. However, by the 1990s libraries had reached a point where they could no longer acquire a substantial portion of the increasing number of publications. They were running out of physical space and funding did not keep sufficient pace to acquire materials scholars might wish to access. The internet went some way toward resolving the space issue but did nothing to address the funding issue.

The funding issue, specifically what the library community refers to as the serials crisis, heightened higher education's attention to the process of scholarly communication. What are serials? Serials are works that are published on a regular basis, from daily (*The Oklahoman*) to annually/biennially/etc. (*Annual Review of Biochemistry*). In the late 1990s a confluence of events built to a serials tipping point. More serials were being published than ever, and commercial interests had become the dominant player in publication, resulting in substantial commercial publisher profits, some over 30%, and reducing libraries' ability to acquire materials for their users.

As academics became aware of this shift, they began to learn about scholarly communication (the process by which research is created, published, disseminated and discovered) and to seek control of that process and its costs through a variety of means. Academic libraries have been active participants in the scholarly communication landscape. This has involved efforts to reduce the cost of institutional financial commitments for commercial serials and reallocating that funding to support making academic research freely available for all readers.

Collection management and scholarly communication have become inextricably intertwined in the effort to move academic research from behind commercial paywalls to openly accessible content for all. The benefits of doing so are growing the readership of academic research, from scholars at smaller institutions and low-income areas to patients and their advocates, policy makers and businesses seeking a competitive edge. Our modern world has numerous wicked problems, such as climate change, national security, food and energy policy; making the work of OU scholars on these topics, and others, available to all, is a concrete way we can help to solve these challenges.

THINK ABOUT IT: WE AREN'T TIED TO A CORD WHEN WE MAKE A PHONE CALL ANYMORE, WE DON'T HAVE TO FILL OUT A PAPER FORM TO COMPLETE OUR TAXES ... WHY WOULDN'T LIBRARIES AND LIBRARIANS EVOLVE TO MEET THE NEEDS OF MODERN USERS JUST AS OTHER INSTITUTIONS HAVE?

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The Learning Lab and Peggy V. Helmerich Collaborative Learning Center on the lower level in Bizzell Memorial Library have numerous spaces for students to study in groups or alone, like the pod seating here.





BECKY HOLLADAY

During the summer of 2023, the circulation desk in Bizzell Memorial Library was renovated for the first time since the 1984 edition of the building opened. Visitors will see an integrated research help desk and refreshed check out locations just inside the west entrance of “the Bizz.”

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