

# LEADING WITH THE LIBRARY



**HOW ONE UNIVERSITY POSITIONED  
ITS LIBRARY AS A CENTRAL HUB  
FOR INNOVATION AND STRATEGIC  
PARTNERSHIPS**

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## FOREWORD

Two hours.

The University of South Florida, and the world, were in the early grips of the COVID-19 outbreak. The university would shift to remote course delivery for at least six weeks, and the provost wanted to know how long it would take for the library to be ready to provide a range of services approximating those available under normal circumstances.

“Well, it’s about 11 a.m. now, so I would say probably by 1 o’clock,” USF Dean of Libraries Todd Chavez responded. Ralph Wilcox, USF’s provost on that late morning in mid-March 2020, was stunned.

“I told him it would be easier for me to list what we can’t do than what we can do,” Chavez says. “We’ve been preparing for something like this the entire time I’ve been at USF.”

In fact, USF began shifting to a digital-preferred library in the mid-1990s, when only a handful of institutions were doing so. (See sidebar, Page 10)

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**“WITHIN THE UNIVERSITY, THE USF LIBRARIES HAVE FORGED PARTNERSHIPS TO CREATE A COMPREHENSIVE SUPPORT SYSTEM FOR ACADEMIC SUCCESS AND FACULTY RESEARCH. BEYOND THE UNIVERSITY, THEY ARE PROACTIVELY ESTABLISHING PARTNERSHIPS TO PRESERVE KNOWLEDGE AND ENHANCE THE REACH AND ACCESSIBILITY OF UNIQUE COLLECTIONS. THESE COLLABORATIVE EFFORTS ENSURE THAT VALUABLE RESOURCES ARE WIDELY AVAILABLE.”**

— Provost Prasant Mohapatra, who joined USF last spring after more than 20 years at UC-Davis, most recently as vice chancellor for research

That strategy fueled the sense of innovation behind the pioneering work the library and its partners now perform.

Today, USF Libraries is creating 3D content for digital collections that preserve artifacts — such as centuries-old Mesoamerican stone carvings being worn away by acid rain — that most people will never see in two dimensions, much less three.

It's leading an institution-wide initiative to make textbooks more affordable for students.

It's sending library specialists onto ships to facilitate the data management process that supports scientists at sea trying to understand the implications of the 2010 Deepwater Horizon explosion and oil spill. And it's venturing into caves alongside researchers exploring global karst terrains that provide water for over a billion people worldwide.

From its readiness to pivot amid an unfolding global pandemic to the future-facing work it now performs, Chavez's

team has repeatedly pushed traditional boundaries around the resources and services academic libraries provide.

“Academic libraries have often been slow to change, which can make it difficult to state a case for relevancy,” Chavez says. “Many libraries reformat their holdings digitally or purchase digital content, organize it and make it accessible. We do those things, too. But not many other libraries go into the field to create content using 3D, imaging and geospatial technology. We're not your grandparents' library.”

Libraries that pursue this kind of work are committed to understanding society's biggest challenges, which aligns with the goals of the Association of American Universities to serve the public good and contribute to the global knowledge ecosystem.

And they're positioned to help communities and strategic partners navigate a technology-driven learning and research landscape that's changing by the minute.



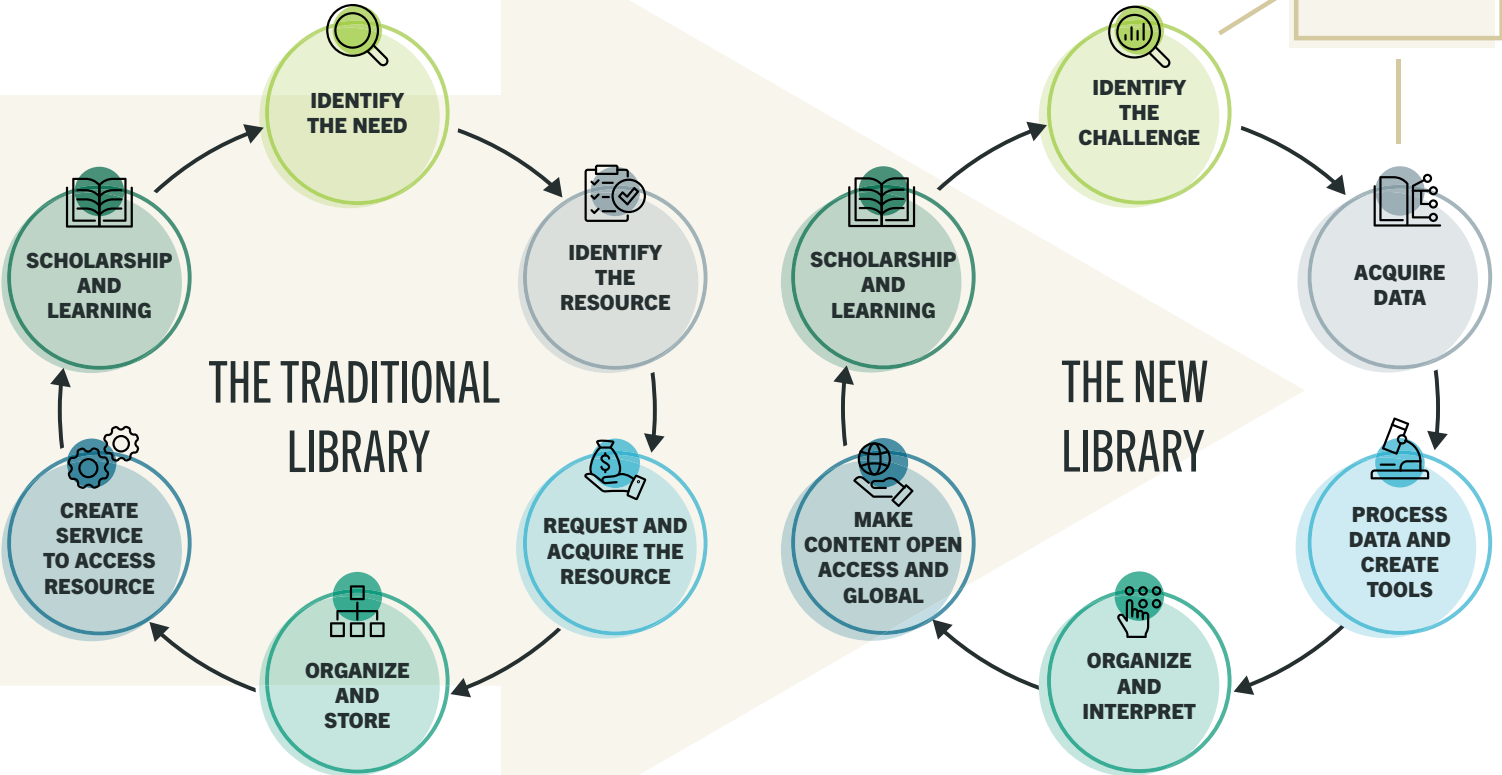
# A LIBRARY WITHOUT BOUNDARIES

As academic libraries evolve, they're challenged with meeting students, faculty and other community members in the virtual spaces where they increasingly work, study and learn. This can mean assisting faculty and staff who may not be familiar with the digital resources they need to carry out research, teach and support students in online environments.

All libraries are doing this, Chavez says, but it shouldn't stop there. Libraries can help find solutions to challenges like rising costs for instructional materials and explore new ways to provide access to resources for faculty, students and others who access their services from their own campuses and from around the world.



In addition to new skillsets and experiences, new workflows become necessary when the library shifts into the role of creator of information.



## THE FUTURE OF CONTENT: 3D AND SPATIAL DATA TECHNOLOGY

**A**long with being good stewards of collections they purchase commercially or acquire through traditional channels, Chavez believes libraries can and should be content creators. The future of academic libraries lies in developing new funding sources that enable library-based scientists to go afield to create and deeply curate content and original research. At USF, this work spans immersive 3D collections ranging from aerospace heritage and humans in space to former President Jimmy Carter’s childhood home to other significant heritage sites in the U.S. and abroad.

Teams working on projects related to digital heritage and geospatial information usually are located within a specific college or university research unit. USF saw an opportunity to move what’s now known as the Center for Digital Heritage & Geospatial Information (CDHGI) from the College of Arts & Sciences to the library, expanding the center and transforming it from one spoke on a wheel to the wheel’s hub.

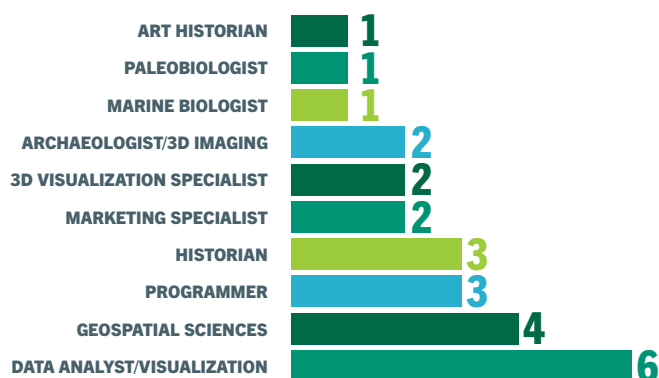
The CDHGI is a cross-disciplinary program that uses reality capture, 3D and spatial technology to document heritage sites, landscapes and artifacts around the world. It’s managed by archaeologists, historians, geospatial scientists and 3D visualization specialists who collaborate with biologists, marine scientists, paleobiologists and other experts employed by the library and funded through institutional sources and grants.

The library accomplishes this in two ways. The first approach is to hire scientists who have the potential to secure external funding in the future to either offset or replace their institutionally funded salaries. The second approach is to write specific expertise requirements into grant proposals and then recruit individuals with those skills if the proposal is accepted. According to Chavez, the latter approach is more common and has resulted in both short- and long-term employment relationships. One example of this is the library’s support of data management for the response to the 2010 Deepwater Horizon oil spill — a three-phase, multimillion dollar grant spanning 10 years.



**HIRING NON-TRADITIONAL LIBRARY STAFF ALLOWS THE ACADEMIC LIBRARY TO SHIFT FROM CURATOR TO CREATOR OF UNIQUE SPECIAL COLLECTIONS.**

### USF HAS HIRED THE FOLLOWING NON-TRADITIONAL LIBRARY STAFF SINCE 2015:





**LIBRARIES CAN BENEFIT FROM A CONTENT CREATION STRATEGY WITH A MISSION THAT ADDRESSES A SHARED SOCIETAL VALUE.**

Libraries can benefit from a content creation strategy that ties together unrelated projects with a mission that addresses a shared societal value — such as climate, nature or health — according to Lori Collins, a research associate professor who co-directs the CDHGI with

her partner, Travis Doering. USF focuses on preserving cultural heritage, which it applies universally across its projects.

“We have a research plan around what we’re doing,” Collins says. “We’re not just a unit with equipment. I think this is a very different approach that strengthens our ability to stay relevant and funded.”

Similarly, many institutions have traditionally thought of research as discipline-specific and created makerspaces within their libraries without a clear plan for how they will be used, Collins says. At USF, having a blueprint to guide the CDHGI’s activities and performing that work from within the library are differentiators that have been critical to its sustainability.

“We get a full understanding of how the university operates and what its requirements are,” Collins says. “The library provides experts in areas we never even thought of — individuals working on improving the discoverability of data, ensuring the longevity of archives and collaborating with digital object identifiers. Some people question why we work within the library. It’s because we’re not isolated or siloed there.”

**The CDHGI has created a series of notable collections, including:**

- Research funded by Argonne National Laboratory and the U.S. Space Force’s Space Launch Delta 45 to capture architecture and landscapes related to the Apollo, Mercury and Gemini missions at Cape Canaveral, as well as various Cold War and Space Race sites. Using advanced 3D and virtual reality technology, the CDHGI team is producing collections that enable virtual exploration of launch complexes and aerospace historical sites that are at risk from sea-level rise, storms and coastal surge. The project recently expanded to include sites on Patrick Space Force Base, just south of the John F. Kennedy Space Center.
- 3D digitization and virtual heritage tourism research at the Jimmy Carter National Historical Park, in



Pictured: 3D images of Launch Complex 34 Apollo 1 Memorial, Mercury 7 Astronaut Memorial and Hangar C interior structure.

Pictured: Detailed 3D scans of handmade furniture from former President Jimmy Carter and Maya artifacts from AD 250-950.



collaboration with the National Park Service and the Friends of Jimmy Carter. The archive of historical artifacts, furnishings and structures includes President Carter’s woodworking and handmade furniture pieces and an interactive virtual tour of his childhood home in Plains, Georgia, narrated by the former president.

- The 3D and Virtual Heritage Tourism Program at Quiriguá Archaeological Park and Ruins in Guatemala, a UNESCO World Heritage site dating to AD 250 to 950. The former Maya civic-ceremonial center includes examples of monolithic carved stone monuments described as “universal masterpieces.”

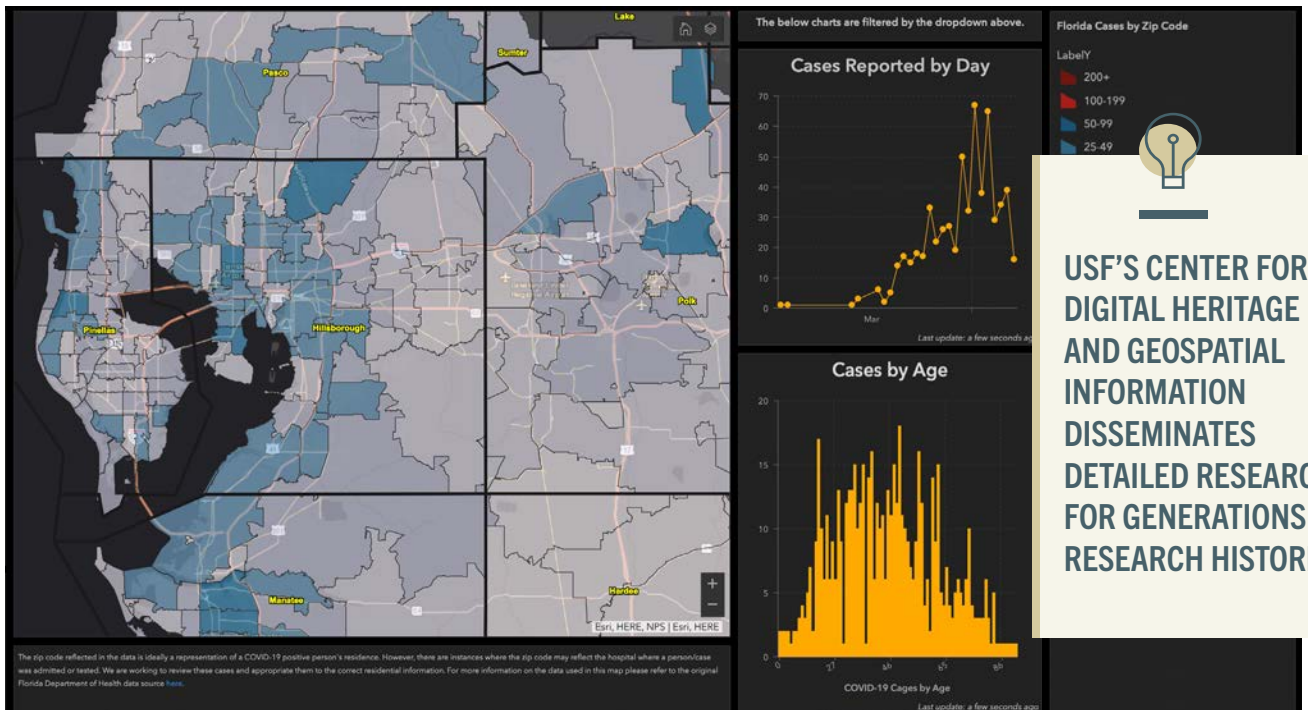
Chavez says having the CDHGI in the library improved curation and preservation and increased visibility for collections. From 2011 until now, as the library built online content and added digital collections, downloads rose from about 50,000 per month to more than 250,000 per month.

“The problem with many of these initiatives is that once completed they are lost in the future,” Chavez says. “Libraries have a long and proud tradition of ensuring long-term, barrier-free access to important information resources.”

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– Todd Chavez, USF Dean of Libraries



Pictured: USF Libraries Florida COVID-19 Hub

## THE CASE FOR OPEN ACCESS

The explosion of mobile applications and social media platforms creates an expectation that information can and should be easily available on demand at no cost. That expectation also applies to academic libraries.



**USF'S LIBRARY-CREATED COLLECTIONS ARE PUBLICLY ACCESSIBLE THROUGH ITS WEBSITE TO ANYONE WITH AN INTERNET CONNECTION.**

At USF, advanced digitization and information-sharing technologies have made resources more accessible to faculty and enabled them to promote

research on a single platform with search engine optimization capability. Open access makes it possible to share publications that aren't commercially available and preserve "gray" literature produced outside of traditional publishing

and distribution channels. In both cases, such content can reach global audiences.

Library teams also undertake projects that convert collected data to spatial data to make this kind of information more relevant and accessible. For example, the CDHGI in March 2020 launched a public-facing Florida COVID-19 Hub. The goal was to create access to geospatial data, applications and tools for tracking, monitoring and supporting data analytics and research relating to cases in the state. The hub has since transitioned to a more archive-based research database to preserve information that was being overwritten daily, making it a valuable resource for researchers.

At USF, library-created collections are publicly accessible through its website to anyone with an internet connection, except for collections embargoed for a fixed time or those dealing with sensitive aspects of indigenous cultural heritage or patrimony.



## SAVINGS FOR STUDENTS

College textbook costs increase an average of six percent a year, doubling every 11 years, according to the Education Data Initiative. At a time when the value of a college education is being challenged and institutions seek ways to expand access, making instructional materials more affordable is a priority.

USF began exploring the creation of a Textbook Affordability Program more than a decade ago in recognition of how these costs impacted student success.

The library team focused on faculty members as key to the program's success and provided them with student cost data and shared open-access alternatives to traditional textbooks and instructional materials. Armed with those details, the faculty embraced the program and the thinking behind it.

"They cared about the issue and only needed accurate information to make the right choice for our students," Chavez says.

The work has saved students more than \$35 million since 2016 and reduced USF's average undergraduate textbook cost per credit hour from more than \$65 in 2016 to \$20.60 in 2023.

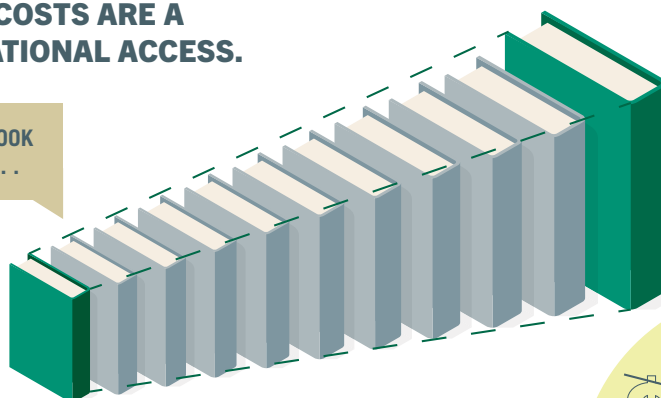
Libraries can support student success in other ways, too. Dahlia Thomas accessed library resources as an undergraduate studio art major working two jobs while taking classes full-time.

Her experience overlapped with the broader shift toward digitizing content and services. Special collections that before would have required visiting the library in person due to their size or copyright restrictions could now be accessed from anywhere.

"Viewing collections online saved me time on art pieces, art history essays and humanities papers," says Thomas, who now serves as USF Libraries Operations Coordinator - Oral History.

### RISING TEXTBOOK COSTS ARE A BARRIER TO EDUCATIONAL ACCESS.

EACH YEAR, TEXTBOOK COSTS RISE ~6% . . .



. . . AND DOUBLE EVERY 11 YEARS.<sup>1</sup>

### USF'S TEXTBOOK AFFORDABILITY PROGRAM, HOUSED IN THE LIBRARY, HAS SAVED STUDENTS

**\$35,000,000**  
SINCE 2016.

~~\$65.00~~  
**\$20.60**

USF'S 2023 TEXTBOOK COST PER CREDIT HOUR, DOWN 68% FROM 2016.

<sup>1</sup>Education Data Initiative

# TAKEAWAYS: LESSONS LEARNED AND BEST PRACTICES

The USF Libraries' evolution is a story of innovation and iteration, and of recognizing potential partnerships and opportunities for new resources and services that might not seem obvious. While that work often occurs behind the scenes, sometimes it delivers groundbreaking results.

In 2021, a 3D applications engineer from CDHGI, Jorge Gonzalez, contributed as a co-author to an international team of scientists. Their research confirmed the earliest intentional burial of a modern human in Africa — a groundbreaking discovery. The research utilized technology that was featured on the cover of the journal *Nature*, recognition that Chavez calls unprecedented for an academic library.

The transformation from early digitization efforts to a more comprehensive reimagining of how academic libraries operate has enabled USF leaders to reflect on lessons learned and best practices that may assist other institutions:



## 1

### **Commit to going beyond digitizing existing collections and embrace new technologies to curate and build your own.**

USF was among the first academic libraries to explore this idea in the mid-1990s, devoting two years to a planning immersion that produced a document called “The USF Libraries Virtual Library: A Blueprint.” It worked because the team took chances and went all in at a time when the concept was in its infancy.

“We were early adopters, and we were only the second library in the country to do that,” Chavez said. “We wanted to throw caution to the wind. We believed this wasn’t a fad, it was a fundamental shift.”

## 2

### **Recognize the value of partnerships.**

At USF, the library isn’t just a passive support unit. It’s a strategic partner within a diverse learning and research ecosystem, demonstrated by library staff’s trips into caves in eight U.S. states and Germany alongside karst researchers, its role in the Deepwater Horizon response and its collaboration with internal stakeholders to support student success.

“We are an active part of projects like this,” Chavez said.

Some of the USF Libraries’ notable external research partners include the Smithsonian Institution and the National

Some of USF Libraries' notable external **RESEARCH PARTNERS** include the Smithsonian Institution, the National Museum of Natural History, UNESCO, Google Arts & Culture, the National Park Service and national institutes for anthropology and history in Mexico and Guatemala.



Museum of Natural History; the United Nations Educational, Scientific and Cultural Organization; the International Council on Monuments and Sites; Google Arts & Culture; Tampa Bay History Center; the National Park Service; the Florida Fish and Wildlife Research Institute; and national institutes for anthropology and history in Mexico and Guatemala.

Those relationships create sightlines to new opportunities for researchers, students and staff and have opened the door to additional collaborations.

3

**Think outside the box and hire nontraditional faculty and specialists.**

To obtain critical skillsets and capabilities for its libraries, USF hires

functional specialists in several areas, including marketing, copyright/intellectual property, digital scholarship, Geographic Information Systems, 3D and digital technologies, research programming and data management/visualization. Specialists with PhDs in areas such as anthropology, archaeology, history, geoscience and paleobiology enable deep curation of strategic collections. The CDHGI went to Spain to recruit two 3D visualization analysis

experts, a skillset difficult to find in the United States. Experts with these skills are fundamental to the virtual- or augmented-reality libraries of the future, Chavez says.

4

**Consider the security of your data.** As information becomes widely available, the potential for misuse increases. The use of 3D data raises

concerns regarding cultural appropriation and exploitation of data, such as the inappropriate portrayal of artifacts and landscapes in gaming or for generative AI. USF is helping to lead the way in finding solutions, working with colleagues from the University of Missouri through a National Science Foundation award to produce best practices for responsible use that address concerns around 3D collections. Collins, Doering and Gonzalez, with contributions from colleagues, created a whitepaper for the National Park Service with guidance on potential uses and misuses of 3D and spatial data.

5

**Reimagine your library's physical space.** The transition to digital collections means more available square footage — and a responsibility to use

it effectively. Chavez and his team began thinking about this in 2010, creating an information commons and digital media center. Five years later, the library added academic success services, including centers for writing, advising, tutoring, career readiness and undergraduate research and a SMART Lab supporting students in introductory math courses through tutoring assistance and technology.

The transformation continued with new research centers for the advanced study of culture and the environment and for social justice. The CDHGI's move to the library introduced expanded research spaces for media production labs and a visualization center. All are available to students through faculty-sponsored projects and assignments.



**Identify how AI can help — and where it may pose a threat.** Like libraries across higher ed, USF uses artificial intelligence in various ways.

New AI-based technology enables faster, more accurate transcription of interviews for oral histories and of handwritten sources. The collections team uses large language models to improve spreadsheet analysis and create data visualizations. And the research and instruction team incorporated AI into the library's chat service to improve response times and manage routine queries. A copyright/intellectual property librarian monitors court cases and discussions around copyright, plagiarism, privacy and source reliability and shares findings and best practices during instructional sessions held each semester for library staff.

## DECADES OF INNOVATION

### 1990s:

As a young university founded in 1956, USF's library collections were comparatively small. Focusing on electronic collections provided off-campus students with remote access to resources at a time when there were few residence halls on campus.

### 2007:

USF Libraries became an early adopter of the Digital Commons institutional repository platform and published its first born-digital open-access journal.

### 2020:

Weeks into the COVID-19 pandemic, the USF Libraries' instruction program was fully available online. Technology like ArcGIS HUB allowed students access to primary sources despite being unable to visit the library.

### Today:

The library is following an ambitious business plan for developing extensive digital collections. Examples include the Florida Environment and Natural History Portal and a collaboration with the Florida Ornithological Society to produce the Florida Breeding Bird Atlas II in an online format, enabling geographic documentation of locations and nesting activities for Florida's bird populations. The impact of this work can be significant. In one recent case, content in USF's digital collections led the state to reclassify flamingos from an invasive species to a recovering native species.

# A VISION REALIZED

**T**he late Sam Fustukjian was director of the USF Libraries when Chavez arrived on campus. Fustukjian served for 19 years and led early efforts to define the next generation of academic libraries.

Fustukjian was born in Lebanon and spoke five languages by age 8. His curiosity and intellect shaped the way he approached his job, leading then-USF President Betty Castor to say Fustukjian “could see through the details of technology to the future of libraries as information centers, and he fought passionately to make USF’s libraries better.”

When Fustukjian died in 1999 at age 54, Chavez and others adopted his mindset, embracing a transformation that, at that point, posed more questions than answers.

“He used to describe this vision where you could walk into a space displaying a virtual bookshelf, touch a wall, and a digital book would be revealed for use,” Chavez says of Fustukjian. “All these things he envisioned have come to pass. I think he would be amazingly proud and happy. He’s the one who really got us started.”

## THANK YOU FOR READING.

Your feedback is important to us. Did you find the information in this case study useful?

YES

NO

