Benjamin Ostermeier

bostermeierm@gmail.com   benostermeier.com

Education

Master of Science in Library and Information Science, May 2022, University of Illinois at Urbana-Champaign
- Cumulative GPA: 4.0

Bachelor of Arts in History, 2016, Southern Illinois University Edwardsville
- Minor in Digital Humanities and Social Sciences
- Minor in Computer Science
- Cumulative GPA: 3.925

Experience

Digital Services Production & Development Specialist – Human Relations Area Files, Yale University (February 2023 to Present)
- Responsible for software support at Human Relations Area Files at Yale University, including developing and maintaining data services, web client UI design, writing application documentation, and other software support for HRAF's major collection of ethnographic and archaeological documents in eHRAF World Cultures and eHRAF Archaeology.

- Adding, removing, and updating user and institution access to eHRAF World Cultures and eHRAF Archaeology.

- Answering user queries to HRAF's help email, including general questions about HRAF, database access, guidance on using HRAF products, and other user needs.

Graduate Assistant - University of Illinois Rare Book and Manuscript Library (August 2020 to May 2022)
Library Specialist - University of Illinois Rare Book and Manuscript Library (May 2022 to November 2022)
- Responsible for supporting online presence of the Rare Book and Manuscript Library (RBML) under the supervision of Digitization Coordinator and Registrar Ana Rodriguez. I played significant role in developing digital exhibit space to feature materials from RBML's collections online. I helped create digital exhibit versions of previous physical exhibits in RBML. I also wrote and developed a born-digital exhibit about the *Star Wars* shooting script in RBML's collection, which involved conducting research on the script and the production of *Star Wars*. I also helped create a guide for developing digital exhibits in the RBML to ensure they could be created after I departed.

- Partnered with programmer Alex Dryden develop a theme for the Omeka S platform for use by the University Library and particularly the Rare Book and Manuscript Library. This theme is now used throughout the University of Illinois library.

- Contributed to RBML digital collections in the University of Illinois Digital Library, including quality control checks of items in the digital library, fixing large amounts of metadata through batch uploads, and setting representative images for items. I also worked with Ana Rodriguez to digitize and generate descriptive metadata about the Charles E. Mudie Collection published on the university's digital library platform.

- Answered reference questions about materials in RBML collection. This work involved locating and properly handling rare books and archival materials, conducting brief research to answer the patron's inquiry, and responding to the patron's question with helpful information and occasionally suggestions for additional research.

Graduate Assistant - University of Illinois Scholarly Commons (August 2020 to May 2022)
Library Specialist - University of Illinois Scholarly Commons (May 2022 to September 2022)
- Responsible for supporting digital initiatives at the University of Illinois, under the supervision of Scholarly Commons director Michelle Reed, including: leading a group to develop a new website for the Scholarly Commons, gathering and organizing digital records of all previous submissions to the Image of Research

competition, publishing the Scholarly Commons podcast, fixing GIS errors in the Mapping History of Illinois project, researching data collection policies at academic libraries, and creating a digital timeline of the history of the Scholarly Commons.

- Answered patron questions about available software and scanning services from patrons visiting the Scholarly Commons in person, on library chat, and through email. Supported patron digital scholarship by assisting them in using scanners, performing data cleaning, analyzing a spreadsheet using Python, and sharing useful resources.

- Assisted Scholarly Commons in reopening to the public in August 2021 in a new, larger space by creating signage, sharing updates with the SC community on the website and social media, and performing other necessary logistical steps to reopen the Scholarly Commons.

Secretary – Progressive Librarians Guild (September 2021 to May 2022)
Responsible for taking notes at group meetings, ensuring effective organization of group records, and providing logistic support for group events.

Technician - SIUE IRIS Center for the Digital Humanities (August 2017 to July 2020)
- Responsible for providing logistical guidance and technical support for faculty and student digital humanities projects at SIUE, including planning and design of digital archive infrastructure, implementing public engagement programming in digital humanities projects, developing interfaces for website users, and training students in artifact digitization and metadata writing.

- Ensured IRIS Center software and hardware were up-to-date and met the digital scholarship needs of students and faculty at SIUE.

- Wrote successful SIUE internal grants to support digital scholarship projects and the purchase of software and hardware updates for the IRIS Center.

Member and Social Media Coordinator - Gateway LEGO User Group (March 2019 to Present)
Coordinated collaborative and custom LEGO creations to be shared with general public. As social media coordinator, I engage with St. Louis metro community through social media posts on Facebook to promote attendance at club events.

Web Developer - Association for Linguistic Typology (November 2018 to August 2019)
Migrated the Association for Linguistic Typology's WordPress site (linguistic-typology.org) off of a WordPress.com service to a WordPress.org server. I also developed a system for applicants to join the association on the website using the User Registration WordPress plugin.

Web Developer - St. Louis Theatre Organ Society (August 2017 to May 2018)
Updated the St. Louis Theatre Organ Society's website (sltos.org) from an outmoded, static html website to a WordPress site that organization members can easily update. I also designed a new website interface.

Tech Developer, part time - Madison Historical (August 2016 to July 2017)
Developed the website for the project using the WordPress and Omeka Content Management systems, created infrastructure for the digital archive and the workflow for artifact digitization, and designed the front-end interface for the website.

Archives Assistant - SIUE University Archives (August 2015 to May 2016)
Worked with the Eugene B. Redmond Collection of Lovejoy Library, a 51 cubic feet collection that documents both the literary work of Redmond and his relationships with other members of the Black Arts Movement. I was responsible for processing the collection and assisted full-time archivist Marlee Graser in developing the initial arrangement of the collection and describing the collection in its initial finding aid.

Collections Volunteer - St. Clair County Historical Society (Summer 2014 and Summer 2015)
Organized the society's extensive collection of documents, photographs, and objects related to the history of St. Clair County. I separated objects from flat objects like photographs and artifacts and updated and added entries for artifacts in the society's digital catalog using the PastPerfect application.

Reporter and Online, Opinion, and Copy Editors - The Alestle (April 2013 to May 2014)
Wrote articles on several SIUE topics, including a potential smoking ban, the reliability of campus Wi-Fi, and the treatment of wildlife on campus. As the opinion editor I assigned editorials to reporters and created the layout of the opinion section. As the Online Editor, I published our articles online and promoted them on social media.

Digital Scholarship and Community Engagement Projects

Starkiller to Skywalker: How Star Wars Changed from Script to Screen Digital Exhibit, Curator and Developer, 2021 to 2022.

Created digital exhibit for Rare Book and Manuscript Library examining the shooting script for Star Wars and how it differs from the final film released in 1977. In the exhibit, I explore how the script developed in the course of pre-production and how the text of the film evolved through the process of filming and editing. I also developed a data analysis of which characters' dialogue changes the most between the script and the final film.

A Princess and a Guy Like Me: Gendered Dialogue in a Galaxy Far, Far Away (benostermeier.com/sw-gender/), Data Analyst, 2021 to 2022 (ongoing)

For the final project of my Data Science in the Humanities course, I created a data set of all of the dialogue of six of the nine Star Wars saga films to examine how frequently men, women, and other genders speak in the film franchise and how gender representation has evolved over time. I also used python and the pandas library to create a simple predictive model to see how well Star Wars characters conform to gender stereotypes. Since taking the course, I have created an additional data set for the remaining three saga films, the prequels, to examine gender representation in the wider franchise. I later added visualizations to the project for my Data Visualization class in the spring 2022 semester.

Scholarly Commons Website Redesign (library.illinois.edu/sc/), Project Manager and Developer, 2021 to 2022

Led a team with support of Scholarly Commons Head Michelle Reed to redesign the website for the Scholarly Commons. I designed web content and navigation structure with the team based on web analytics data and evolving identity of the Scholarly Commons. I also coordinated with John Laskowski, the library's web strategy coordinator to ensure that the design would work within the technical infrastructure of the library's WordPress website.

Digital Rare Book Collection, Tech Support, 2022.

Set representative images for the hundreds of digitized books from the Rare Book and Manuscript Library (RBML) available online. I also instigated a discussion in the library about how best to organize and represent the RBML's digital collections for users.

Interactive Survey for 'The Dress' Exhibit (dress.benostermeier.com), Developer, 2021.

Developed a fully functional interactive poll for my Museum Informatics class that would be part of a theoretical exhibit about the notorious "blue and black" or "white and gold" dress phenomenon. This poll would take user input on a touchscreen (viewable at dress.benostermeier.com/add) and then a projector screen would display the poll results to visitors. The goal of this interaction is to spark conversation among visitors about how they see the dress and provoke a discussion for how social media creates division. I build the application using SQL, Laravel, node.js, Vue.js, and Vuetify and by following best practices for user experience design.

Charles E. Mudie Papers, 1816-1897, Metadata Entry, 2021.

Entered metadata values for items in the Charles E. Mudie Papers digital collection with supervisor Ana Rodriguez, which consists primarily of correspondence with significant 19th century English novelists. This required occasional background research and significant attention to detail.

Mapping History at Illinois (library.illinois.edu/mappinghistory/), Tech Support, 2021.

Re-uploaded historic, georeferenced maps of the University of Illinois to the University Library's geoserver that had recently migrated and lost some of the content of the previous server. I then integrated these uploaded maps back into interactive map exhibits created for the project several years ago. These exhibits were made with ArcGIS StoryMaps.

Divine Madness Digital Exhibit (exhibits.library.illinois.edu/s/rbml/page/divine-madness), Developer, 2021. Based on "Divine Madness" physical exhibit curated by Dr. Cait Coker, Siobhan McKissic, Ruthan Mowry, Ana D. Rodriguez in 2020.

Created digital version of physical exhibit previously on display in the Rare Book and Manuscript Library using the K. Sharp theme. This involved gathering and organizing digital scans previously done on the books featured in this exhibit, requesting additional scans of materials not yet digitized, exporting metadata from the library's catalog, bulk uploading scans and metadata to Omeka S, and organizing the content of the exhibits and exhibit materials.

Making Mr. Darcy Digital Exhibit (exhibits.library.illinois.edu/s/rbml/page/darcy), Developer, 2020 to 2021. Based on "Making Mr. Darcy: Cultural Context for the Regency Gentleman" physical exhibit curated by Lynne M. Thomas, head of the Rare Book & Manuscript Library, in 2019.

> Created digital version of physical exhibit previously on display in the Rare Book and Manuscript Library using the K. Sharp theme. This involved gathering and organizing digital scans previously done on the books featured in this exhibit, exporting metadata from the library's catalog, bulk uploading scans and metadata to Omeka S, and organizing the content of the exhibits and exhibit books.

K. Sharp Omeka S Theme (github.com/UIUCLibrary/ksharp), Developer, 2020 to 2021.

> Co-developed theme for use on the Omeka S content management system with Alex Dryden for the University of Illinois at Urbana-Champaign Library.

SourceLab Preservation Recommendations, Co-Writer and Project Manager, 2020

> For the final project of my Digital Preservation course, I and a team of fellow students evaluated potential digital preservation risks to the digital history project SourceLab (iopn.library.illinois.edu/journals/sourcelab) and made a series of recommendations for preserving the work of the SourceLab project. The goal was for these tasks to be integrated into the pre-existing workflows of the project.

Celebrating a Decade of the Scholarly Commons Timeline (bosterm.github.io/sc-timeline/), Designer and Developer, 2020

> Scholarly Commons graduate assistant Mallory Untch and I developed a timeline covering the history of the Scholarly Commons at the University of Illinois using timeline.js, which I heavily customized with custom CSS and JavaScript.

Default Metadata plugin for Omeka (omeka.org/classic/plugins/DefaultMetadata/), Developer, 2019 to 2020. Based on *Default Dublin Core* plugin by Eric Weig.

> Developed plugin for Omeka using PHP and JavaScript, which allows site administrators to set default metadata values for describing digital artifacts.

Digital Humanities and the Undergraduate Experience (iris.siue.edu/undergrad-dh/), Conference Planner, 2019.

> Played a key role in conference planning, including the development of the website to promote conference, creating the Call for Proposals application using Google Forms, helping to develop conference schedule and program, and providing technical support for Audio/Visual presentations during the conference.

Forgotten Illinois 200 (forgotten-illinois.org), Project Manager and Tech Developer, 2018 – 2019.

> Developed online gallery of photos, videos, lesson plans, and other digital content from nearly 20 projects funded by the Illinois Humanities Council's Forgotten Illinois grant program. This work involved meeting and coordinating content sharing with public heritage institutions throughout the state of Illinois. This project won the Illinois Association of Museums' 2019 Best Practices Award for Superior Achievement in Virtual Materials.

Conversation Toward a Brighter Future 2.0 (iris.siue.edu/brighter-future/), Tech Developer, 2018 – 2020, Project Manager, 2019 – 2020.

> Provided technical support for area high school teachers integrating digital storytelling on intergenerational relationships into their curriculum, including training students and teachers in audio and video recording and editing. Also assisted with project planning and logistics of hosting a summit at the Mannie Jackson Center for the Humanities. This project was funded by the National Endowment for the Humanities.

IRIS Center main site (iris.siue.edu), Web Developer, 2017 – 2020.

> Using WordPress, developed and maintained the interface and site structure of a new version the IRIS Center website with my colleague Katie Knowles.

Digital East St. Louis (eaststlouisculture.siue.edu), Web Developer, 2017 – 2020.

> Maintained website originally developed by Sudha Madhuri Arvapally and developed public-facing part of the website after the project concluded. This project, which engaged East St. Louis middle school students with the history and culture of their city through digital methods, was funded by the National Science Foundation.

Madison Historical: The Online Encyclopedia and Digital Archive for Madison County, Illinois (madison-historical.siue.edu), Tech Developer, 2016 – 2020.

>Developed the website for the project using the WordPress and Omeka Content Management systems, created infrastructure for the digital archive and the workflow for artifact digitization, and designed the front-end interface for the website about the history of Madison County. This includes a digital book viewer based on the Internet Archive's book viewer, which I modified using JavaScript and developed a way for student workers to create book viewers using a Windows application I developed using Visual Basic.

Borderlands: The Goshen Settlement of William Bolin Whiteside, (whiteside.siue.edu), Author, Researcher, and Web Developer, 2016 – 2020.

>For my Bachelor of Arts senior project, I developed this website to present a multi-linear history argument about the environmental impact of American settlement of frontier Illinois. This was the first non-paper senior project for the SIUE History Department and received the Kimball, McAfee & Riddleberger Award in Historical Studies for the best senior project in 2016.

The Wide, Wide World Digital Edition, (widewideworlddigitaledition.siue.edu), Student Editor and Web Developer, 2014 – 2020.

>Updated website from Omeka 1.X to Omeka 2.X, revamped website interface and structure, helped develop controlled vocabulary for item metadata, digitized books, and organized digital artifacts. This website maps transatlantic publication networks via the development of a digital edition of Susan Warner's 1851 female Bildungsroman *The Wide, Wide World*.

Other Academic Projects

Fantastic Beasts and Where to Find Them: Data Dictionary and Metadata Schema, Project Manager, 2022.

>For my final project for Metadata in Theory and Practice course, I worked with a team of students to develop a metadata schema and data dictionary for describing magical creatures from the *Harry Potter* books. This work involved determining which standard fields to use to describe creatures, deciding on controlled vocabulary for various fields, deciding which creatures should be treated as separate groups, and developing an XML schema for describing the creatures in XML.

"Finding Aid for Henry Hicks Wind Band Sound Recording Collection, 1967-2014", (archon.library.illinois.edu/index.php?p=collections/findingaid&id=12968), 2021.

>For my final project for Administration and Use of Archival Materials course, I worked with a team of students to process a collection of audio CDs of historic military bands, non-military ensembles, and circus music collected by Henry and Amy Hicks and donated to The Sousa Archives and Center for American Music. We arranged the collection into a hierarchical intellectual order and developed the collection finding aid using Archon.

Skills

Web Development
- Proficient in developing websites with HTML, CSS, JavaScript, jQuery, PHP, and MySQL
- Creating basic fullstack web apps using node.js, Express, Laravel, and Vue.js that can read, write, update, and delete (CRUD) data to and from a relational (MySQL) database
- Designing and testing databases for web applications in MySQL
- Building websites using Omeka, WordPress, Drupal, and Scalar Content Management Systems
- Collaborating with other developers and testing/implementing code updates using GitHub for version control
- Creating custom themes and modifying existing themes for Omeka Classic, Omeka S, and WordPress using HTML, CSS, JavaScript, jQuery, PHP, and MySQL.
- Making websites accessible by following Web Content Accessibility Guidelines (WCAG) and testing web accessibility with screen readers and other accessibility evaluators
- Reading data from a REST API and rendering content from the API using AJAX
- Setting up a webserver on a Linux operating system with Apache and nginx
- Establishing website domain names and hosting with DNS
- Setting up a cloud service using Linode and Amazon Web Services (AWS)

- Ensuring website and server protection from security threats using various techniques, including but not limited to firewall configuration with UFW, limiting SSH access to trusted IP addresses, setting up authentication key-pairs for SSH, configuring the server to limit the number of responses sent at once, and sanitizing text inputs from users in forms and URLs.
- Writing documentation for others to be able to use my code and design to use and develop websites I created
- Following critical design needs of contemporary web design – including user experience (UX), program sustainability, cross-browser compatibility, and responsive design for both desktop and mobile users
- Using Google Analytics data to modify web design to better meet the behavior and needs of users
- Following agile software development principles to continuously develop and focus on smaller increments to continually iterate on the design as user needs evolve

Archival Practice
- Processing and arranging archival materials using principles of provenance, original order, respect des fonds, and accessibility.
- Describing the arrangement of archival materials in a collection in a finding aid with the descriptive standards of EAD and DACS using Archon.
- Managing rare book and archive collections using Aeon
- Answering reference research questions about rare books and manuscript collections.
- Digitizing photographs, documents, maps, cassette tapes, VHS tapes, 19th century books, and other artifacts in high quality
- Developing controlled vocabulary for describing digital records
- Developing and customizing Omeka plugins
- Batch adding multiple items to Omeka using the "Batch Upload" plugin and CSV files
- Creating interfaces for digital archive websites, including site navigation, search features, and other forms of user interaction
- Harvesting digital resources using the Open Archives Initiative's Protocol for Metadata Harvesting
- Following a variety of metadata schemas for descriptive digital records, including Dublin Core, MARC, METS, PREMIS, MIX, PBCore, and TextMD.
- Formatting metadata in XML, JSON, and tabular format
- Crosswalking metadata from one schema to another
- Creating Archive Information Packages following the Open Archival Information System (OAIS) Reference Model
- Designing a metadata schema to describe a particular domain of resources
- Ensuring preserved digital files have not been altered through fixity checks.
- Familiarity with ideal file formats for digital preservation.
- Batch correcting large amounts of metadata errors in the University of Illinois digital library system

Geographic Information Systems (GIS)
- Creating and modifying vector features using ArcMap and QGIS
- Georeferencing historic raster maps onto contemporary maps using QGIS
- Creating interactive digital maps for websites using Leaflet.js

Digital Scholarship Methods
- Creating interactive data visualizations with Tableau
- Basic data analysis using the pandas library for python
- Creating data visualizations using matplotlib, bqplot, R, and vega-lite.
- Generating network graphs with Gephi
- Creating text corpuses with Voyant for basic text analysis
- Conducting and transcribing oral histories
- Training high school and university students, as well as university professors, in digital methods

Project Management

- Creating workflows and timelines for digital scholarship projects and ensuring the project team is meeting project goals and deadlines
- Grant writing and proofreading
- Familiarity with digital community engagement ethics, including privacy considerations, obtaining consent to share materials online, copyright considerations, and making digital spaces accessible to the local community.
- Project organization and task management using Trello
- Team communication with Slack and Microsoft Teams
- Assessing risks to preservation of digital resources for digital scholarship projects.

Other Skills
- Audio and video editing with Audacity and Adobe Premiere Pro
- Graphic and print design with Adobe Photoshop, Illustrator, and InDesign
- Researching history, particularly local history, and making historical arguments
- Planning and releasing a podcast on WordPress to iTunes and other podcast platforms.
- Batch processing of digital files through various automated processes, such as renaming, resizing, format converting, and other functions
- Basic 3D modeling and animation with Blender.

Presentations

"Star Wars: Legacies of Science Fiction and Space Opera." Class presented at the Rare Book and Manuscript Library at the University of Illinois, March 2022.

"Introduction to Optical Character Recognition (OCR) and Searchable PDFs." Workshop co-presented with Ryan Yoakum at the University of Illinois Library, October, November 2021, and January, February, and March 2022.

"Introduction to Optical Character Recognition (OCR) and Searchable PDFs." Workshop co-presented with Mallory Untch at the University of Illinois Library, October, November 2020.

"Building an Inclusive Digital Local History in the Midwest." Paper presented at the Global Digital Humanities Symposium at Michigan State University, March 2020.

"Publishing Digital Scholarship with Scalar," Workshop at the SIUE IRIS Center, January 2020.

"Madison Historical: Community Engagement from Kindergarten to College." Paper co-presented with Brendon Floyd, Shannan Mason, and Kendyl Schmidt at the Digital Humanities and the Undergraduate Experience conference at Southern Illinois University Edwardsville, April 2019.

"Creating Data Visualizations with Tableau," Workshop at the SIUE IRIS Center, February 2019.

"Intro to Video Production," Workshop part of Audio & Video Production Professional Development Workshop offered to local high school teachers at Southern Illinois University Edwardsville, August 2018.

"Digital Community Engagement at SIUE: How a Regional University can have a Global Impact." Paper co-presented with Katherine Knowles at the Global Digital Humanities Symposium at Michigan State University, March 2018.

"The Whitesides: Benjamin & Lucy's Neighbors." Public lecture at Benjamin Stephenson House museum in Edwardsville, Illinois, March 2018.

"Innovative Digital History Collaborations in Illinois Universities: UIS History Harvest, UIUC SourceLab, and SIUE Madison County Historical." Co-presentation with Jeffrey Manuel and Jason Stacy as part of a panel discussion at the Conference on Illinois History at the Abraham Lincoln Presidential Library in Springfield, Illinois, October 2017.

"Madison Historical: A Model for Digital Public History." Workshop co-presented with Jeffrey Manuel and Jason Stacy at the SIUE IRIS Center, April 2017.

"Organizing and Personalizing Online Digital Collections with Omeka." Workshop co-presented with Katie Knowles at the SIUE IRIS Center, February 2017.

"How the Web Works." Workshop at the SIUE IRIS Center, January 2017.

Publications

Starkiller to Skywalker: How Star Wars Evolved from Script to Screen, Rare Book and Manuscript Library Digital Exhibit (https://exhibits.library.illinois.edu/s/rbml/page/star-wars), 2022.

"The World's Largest Catsup Bottle in Collinsville," *Madison Historical: The Online Encyclopedia and Digital Archive for Madison County, Illinois*, Encyclopedia article co-authored with Elizabeth Silva, (madison-historical.siue.edu/encyclopedia/catsup-bottle), 2018.

"Written on the Land: The Whiteside Family," Article in *Journal of St. Clair County History* v. 40, 2016 – 2017.

"Border History of Madison County," *Madison Historical: The Online Encyclopedia and Digital Archive for Madison County, Illinois*, Online Encyclopedia Article (madison-historical.siue.edu/encyclopedia/border-history), 2017.

"Whiteside, William Bolin (1777 – 1833)," *Madison Historical: The Online Encyclopedia and Digital Archive for Madison County, Illinois*, Online Encyclopedia article (madison-historical.siue.edu/encyclopedia/william-bolin-whiteside), 2017.

Awarded Contracts and Grants

All of the awards below were written in collaboration with my IRIS Center colleagues Jessica DeSpain, Kristine Hildebrandt, and Katie Knowles. Awards for which I was a primary author are indicated with an asterisk.

***SIUE Graduate School Research Equipment and Tools Program,* $4,716, awarded March 2020.**
    Funded purchase of new iMacs to replace aging Mac desktops in the IRIS Center

***SIUE College of Arts and Sciences Targeted Funding Initiative,* $12,532.25, awarded July 2019**
    Funded creation of website to document the history of the African American community in Edwardsville, Illinois

***SIUE Graduate School Conference and Workshop Awards,* $6,000, awarded February 2019.**
    Funded Digital Humanities and the Undergraduate Experience conference

***SIUE College of Arts and Sciences Targeted Funding Initiative,* $9,580, awarded November 2018.**
    Funded Digital Humanities and the Undergraduate Experience conference

***Contract with Illinois Humanities, $2,675, awarded August 2018.**
    Funded creation of digital gallery of projects funded by the Forgotten Illinois grant program (forgotten-illinois.org)

***SIUE Graduate School Research Equipment and Tools Program,* $5,983.25, awarded March 2018.**
    Funded purchase of laptops, microphones, and GoPros for mobile digital storytelling with the IRIS Center

***SIUE Graduate School Research Equipment and Tools Program,* $750, awarded May 2017.**
    Funded purchase of new monitor and external hard drive for the IRIS Center

***SIUE Graduate School Research Equipment and Tools Program*, $2,899.98, awarded May 2017.**
    Funded purchase of hardware and software updates to the IRIS Center book scanner