

## **OHRAB Grant Final Project Report**

January 31, 2014

**Organization:** The University of Akron, University Libraries, Archival Services

**Project Title:** Digitization of the Daniel Guggenheim Airship Institute Technical Reports

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### **Summary of Project Activities and Accomplishments:**

The purpose of this project was to digitize for preservation purposes and to make available online 182 technical reports from the Daniel Guggenheim Airship Institute. The grant funded the digitization of 66 reports while funding for the remaining reports—with the exception of 29, which will be discussed below—was provided by The University of Akron (UA).

During the first month of the grant, the technical reports were located, pulled, and packed in shipping boxes with padding to protect them during transport by the Senior Archives Associate with the assistance of Archival Services student assistants. The reports were shipped via United Parcel Service (UPS) to Digital Museum Masters (DMM, formerly known as The Image Collective or TIC) in Somerville, Massachusetts. The reports arrived safely in April and were not damaged in any way during transportation.

When the reports arrived at the vendor, the Head of Archival Services and the vendor discussed the file naming conventions, which followed NARA recommendations and included the report number followed by the page number and the document format extension. Periods in the report numbers were replaced with underscores. For instance, the uncompressed TIFF file for report number 02.01 page 14 is 02\_01\_14.TIFF and the PDF file is 02\_01\_14.PDF.

Digitization of the technical reports was conducted by DMM between May and December 2013. While the digitization was supposed to be completed and the files delivered to UA by August, the digitization took almost four months longer than expected due to some unexpected problems the vendor encountered during the digitization and OCR processes. Fortunately, this did not affect the completion of the project.

The first problem encountered had to do with the fact that some of the pages in the reports were printed on onion skin paper with bled type, which required some adjustments in the scanning process, namely increasing the contrast slightly. The vendor did this so the type would be more legible and so the PDF files could be OCR'd and searched. The other issue that was discovered during scanning is that some of the reports contained fold outs or “tip-outs,” which required a

different procedure. The vendor solved this problem by skipping these pages and then scanning them later at a different resolution with an oversized scanner, which later were added back into the combined PDF file as is standard procedure. These issues required some creative solutions and proved to be very tedious and time consuming. Again, these unforeseen circumstances slowed the process and required adjustments to the original timeline, but did not affect the completion of the project.

Another problem encountered by the vendor during the scanning process was that 29 reports were bound in hard covers and the vendor could not get quality scans of the pages in these reports as much of the text was in the gutter. While the Head of Archival Services gave him permission to dis-bind the documents since the bindings were modern and not original, the vendor did not have the means or time to do this and did not want to be responsible for any damage that might have been caused to the original documents during the dis-binding process. In addition, due to the other unanticipated problems encountered during the scanning and OCR processes, it was decided that the vendor would not have time also to address this issue in the time allotted for the grant. Therefore, it was decided that the bound reports would not be digitized at this time and would be done at a later date as a separate project.

Digitization standards based on “Technical Guidelines for Digitizing Archival Materials for Electronic Access: Creation of Production Master Files – Raster Images” produced by the National Archives and Records Administration (NARA) were followed during the digitization of the reports. The vendor scanned the reports at 300 DPI (dots per inch) and saved them as uncompressed TIFF images for the master files. The scanned reports were not cropped or skewed by the scanning technician and reflect accurately the original image. The vendor also created derivative PDF access files for each report from each TIFF master file that were used for online viewing.

The vendor used Optical Character Recognition (OCR) to make the documents fully searchable. The vendor backed up production master image files and derivatives on external hard drive systems with a level of data redundancy based on NARA recommendations. One external hard drive was purchased and supplied by the vendor and was used to transport the master TIFFs and the derivative PDFs from the vendor to UA. Originally, an additional set of digital master file images with metadata stored on an open standard tape format, such as LTO (Linear Tape-Open), was supposed to be maintained offsite at the OCLC facilities in Dublin, Ohio. However, as we discovered, OCLC does not store the high resolution master files or allow us to upload them to CONTENTdm. Instead, these files are stored onsite on Archival Services’ designated server, which is housed at The University of Akron Computer Center and maintained by Information Technology staff. This actually is a better option as it allows us quick and easy access to these digital files when needed.

When the digitization was completed, the vendor re-packed the original reports in boxes to protect them using the original packaging and shipped them back to Akron, which occurred in mid-November. Archival Services student assistants then reshelved the boxes in their designated shelf locations under the supervision of the Senior Archives Associate. The vendor then had to complete OCR and other work on the digital files before they could be delivered. While DMM

performed quality control onsite, another round of quality control and quality assurance was conducted on all the digitized reports once the files arrived in the archives to ensure the digitization and metadata adhere to the image standards using the Archival Services training manual “Quality Control and Assurance Procedures for Scanning and Metadata Creation.” This work was conducted by Archival Services staff and student assistants under the guidance of the Senior Archives Associate once the digital files arrived in the archives in early December, which was four months behind the deadline. Fortunately, none of the images needed rescanned or adjustments such as image rotation.

However, two issues were encountered with the final files the vendor delivered to UA. First, the vendor did not combine the separate OCR files for each page into one PDF document for each report, so this had to be done by Archival Services staff. In addition, when staff tested the searching capability and accuracy of the OCR’d PDF files, the search results were poor on many of the files. Therefore, the Senior Archives Associate and other staff and student assistants had to take most of the raw TIFF files and re-convert them to PDF documents and OCR them to improve the quality of the documents and therefore the searchability. This took more time and caused more work and effort on our part that was not anticipated.

While the digitization was months behind schedule due to various problems encountered by the vendor, most the metadata creation was completed weeks ahead of schedule since much of the metadata already existed as the finding aid included an item-level description of each individual report. Archival Services personnel used this information to quickly populate the metadata import spreadsheet. They copied this information from the finding aid, which included author, title, date, and report number. They then pasted this information into a Microsoft Word file and manipulated the data by putting returns after each report description and tabs between each set of information. They then copied and pasted this information into the Microsoft Excel spreadsheet. The returns placed each report’s metadata on a different row in the spreadsheet and the tabs put the data into separate columns. This made metadata creation for the reports much quicker than creating it from scratch. Other information such as collection name, institution, institutional contact, and the like were placed into the spreadsheet in the appropriate column and copied down to populate all of the remaining cells. This work was completed ahead of schedule and before the mid-term report.

Additional metadata had to be created once the digital files arrived at UA in early December. To help facilitate topical searching, as part of its metadata each technical report was given a short description and one or more subject headings assigned to it. Each report contains a summary or abstract on the first page. Therefore, staff opened the PDF file for each report, copied the abstract or summary, and pasted it into a Microsoft Word document. Copying the abstract and pasting it directly into the Excel spreadsheet could not occur as originally planned as some of the copied text was converted into strange characters and symbols due to the inferior quality of many of the PDF documents. As a consequence, the text had to be cleaned up or in some cases completely retyped in Word and then pasted into the appropriate cell in the Excel spreadsheet. Once this work was completed, Archival Services staff used the information in the abstracts to help them select key words and subject headings.

For subject heading controlled vocabulary, we used names and place terms from the Library of Congress Name Authority File. Keyword indexed metadata fields included author, title, subjects, description, date issued, and identifier. The metadata for each technical report followed procedures outlined in a metadata manual that was created for this project by the Special Collections Cataloger in coordination with the Head of Archival Services and other archives staff, which can be used for other projects. The Head of Archival Services and the Special Collections Cataloger performed all quality and assurance control on the metadata. Once this work was completed, which was in mid-December, all the PDF files and corresponding metadata were uploaded to Archival Services' Digital Collections site using CONTENTdm by the Senior Archives Associate.

### **Outcomes:**

Since the reports are now digitized and available online this reduces handling of the original documents, which are frequently referenced and extremely fragile. Now that the reports are online (please see screen shot examples of the digitized reports in Appendix A) they are more readily available to a broader audience as they can be accessed 24/7/365 from anywhere in the world with a computer and internet access. The reports are used by students, faculty, scholars, lighter-than-air enthusiasts, and the general public for a variety of research projects. These individuals now have unfettered access to these important research materials. The documents are also fully searchable, which enhances searchability, increases discovery of pertinent information, and reduces research time. This project would not have been possible without the grant. The University of Akron genuinely thanks OHRAB and NHPRC for their generous support.

Archival Services faculty, staff, and students learned a great deal throughout the project. Student assistants, many of whom plan to pursue a career in archives, libraries, or museums, had the opportunity to learn and practice quality control and quality assurance on digitized documents. They also had the opportunity to create and work with metadata. In addition, the faculty and staff learned a great deal in terms of manipulating data and creating shortcuts and workflows and other solutions for digitization projects. Furthermore, the metadata training manual created for this project also can be used for other projects. In fact, it is currently being used by a practicum student to create metadata for a project that includes the digitization of and online access to numerous Civil War letters from several collections held in Archival Services. The archives' system of evaluation for this project includes the number of patrons who visit the website and facilities onsite to view the Daniel Guggenheim Institute Technical Reports. These numbers will be monitored over the next year.

### **Publicity:**

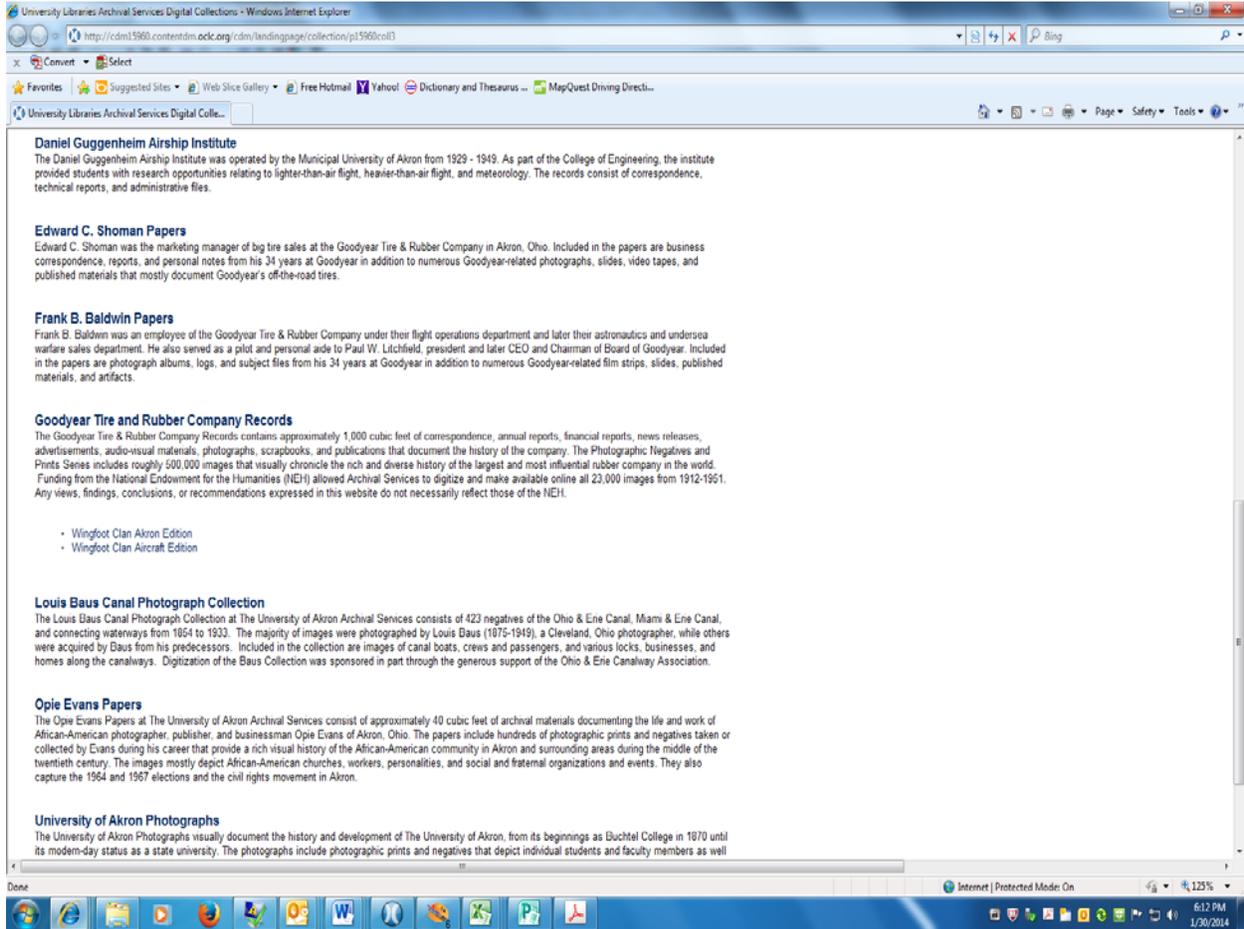
Archival Services created and released many publicity pieces to announce the grant and its completion. Most of the publicity was written by the Project Director/Head of Archival Services in coordination with the Archives Associate Senior and the University Libraries' Manager of Marketing and Communications and a Public Relations Representative in the University's Office

of Institutional Marketing. In order to announce the grant award, a news article was written and posted on Archival Services' website (please see [http://www.uakron.edu/libraries/archives/about/archival-news\\_detail.dot?id=7b04c508-40fa-4b3f-a927-ac6bd65c34c7](http://www.uakron.edu/libraries/archives/about/archival-news_detail.dot?id=7b04c508-40fa-4b3f-a927-ac6bd65c34c7)). This article also appears in the news ticker on the University Libraries' homepage and on the Library News & Announcements page on the University Libraries' website (please see <http://www.uakron.edu/libraries/> and <http://www.uakron.edu/libraries/about/news/>, respectively). We also submitted a news article to the Society of Ohio Archivists, which was placed in the Awards section of the Fall 2013 edition of their newsletter, the *Ohio Archivist*.

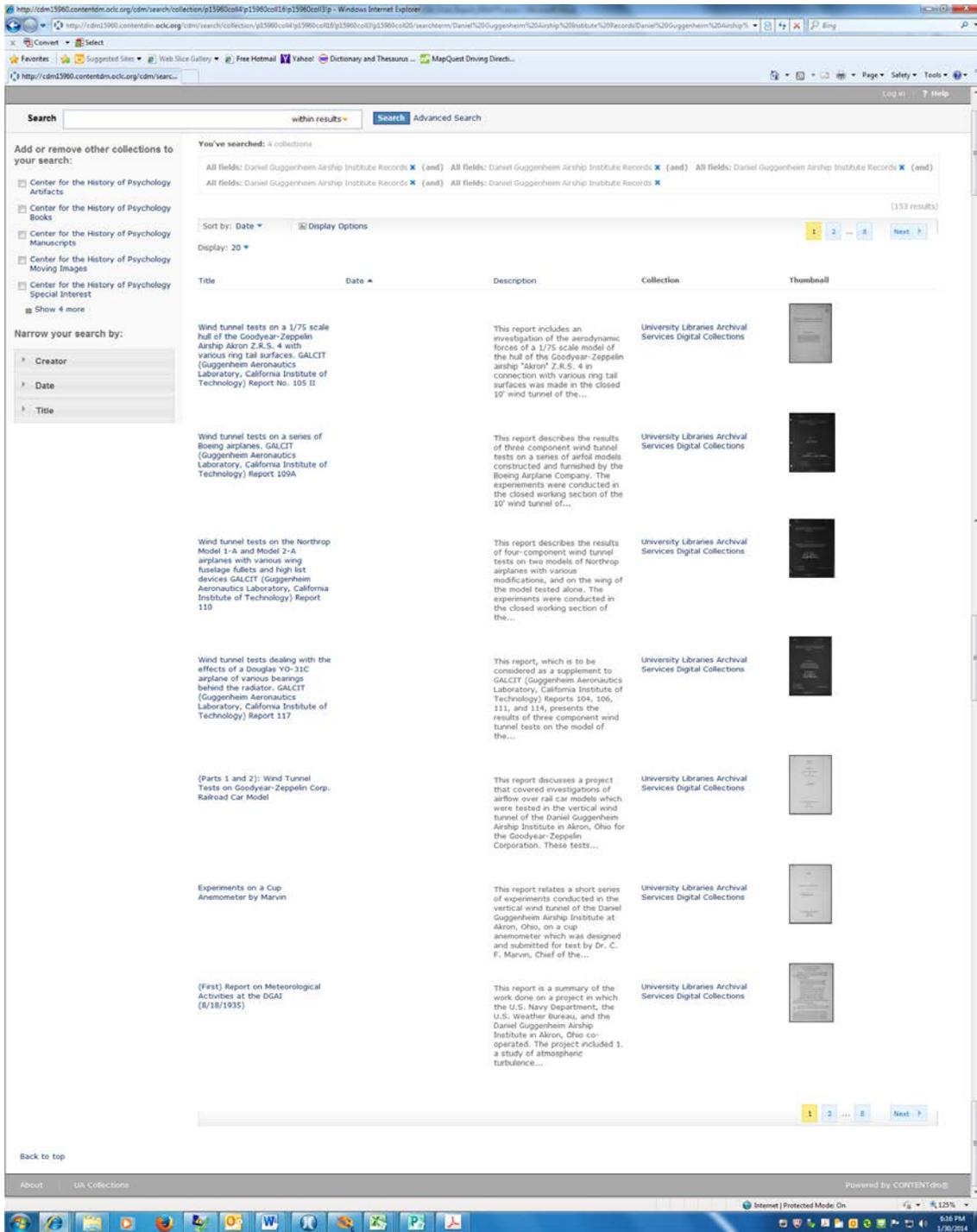
Additional publicity was created and disseminated at the conclusion of the project to announce its successful completion and to point researchers to the final product. For instance, a press release was created and distributed to local media outlets. A news article based off the press release also was created and placed on the Archival Services' and University Libraries' websites and the University Libraries' portal, which can be accessed at [http://www.uakron.edu/libraries/archives/about/archival-news\\_detail.dot?id=f204587c-dbec-4023-bf28-80e04305bd69](http://www.uakron.edu/libraries/archives/about/archival-news_detail.dot?id=f204587c-dbec-4023-bf28-80e04305bd69) and <http://blogs.uakron.edu/liblog/>. An announcement also was posted on the Society of Ohio Archivists listserv and a brief announcement was placed on the University's daily news e-mail blast called E-mail Digest. Other announcements were sent to the Society of American Archivists for publication in the news section of *Archival Outlook* and SAA's Archives and Archivists listserv as well as the Midwest Archives Conference for publication in the news section of the *MAC Newsletter* in addition to the History and Culture of the State of Ohio listserv (H-Ohio) through H-Net. Please see examples of publicity in Appendix B.

# Appendix A

## Screen Shot Samples of Digitized Reports



**Fig. 1. Screen Shot of Archival Services Digital Collections Landing Page in CONTENTdm Showing Addition of Guggenheim Institute Records Link and Short Description**



**Fig. 2. Screen Shot of Search Page for Guggenheim Institute Technical Reports in CONTENTdm**

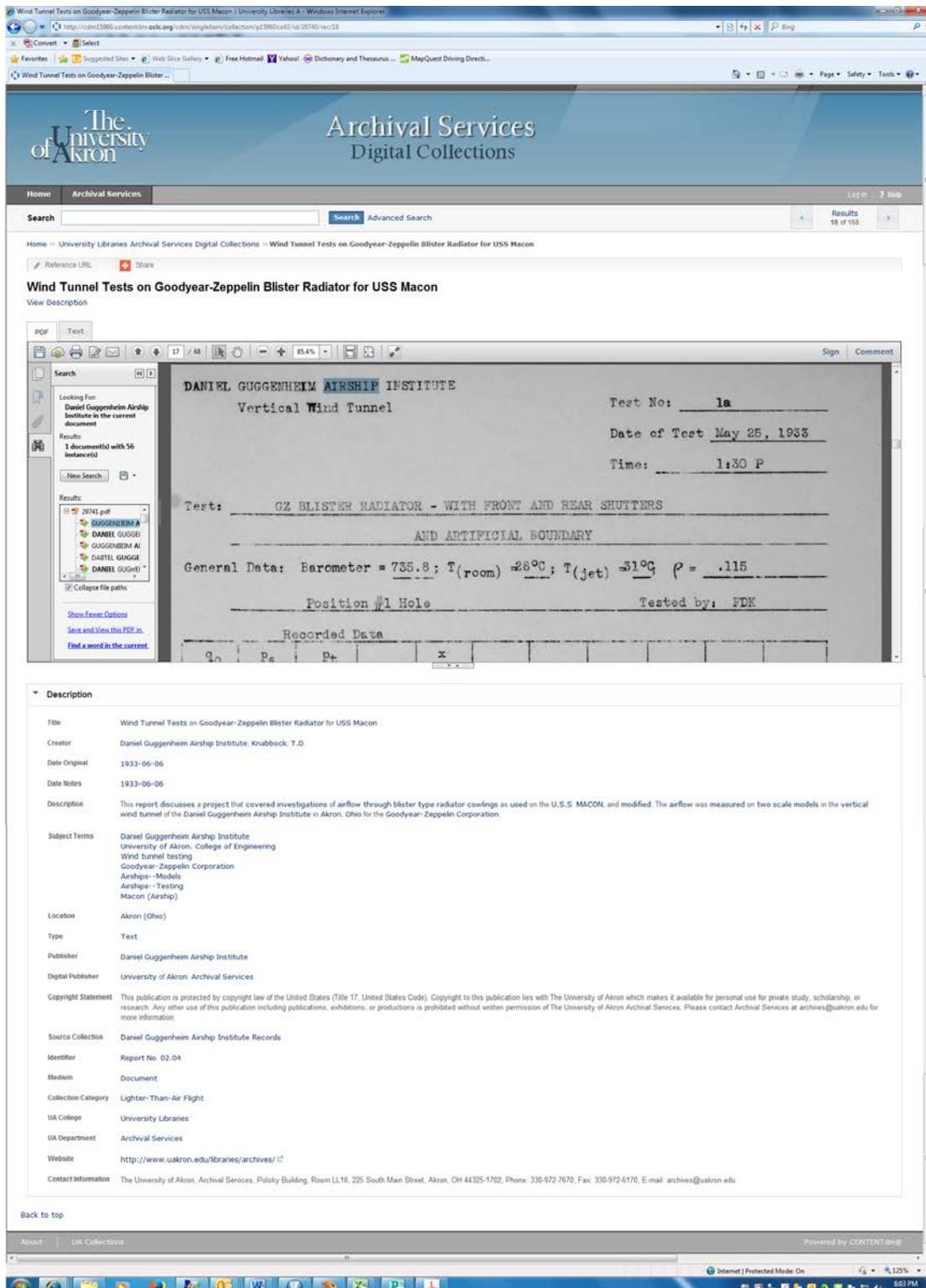


Fig. 3. Screen Shot of Individual Record Page in CONTENTdm

# Appendix B

## Publicity Samples

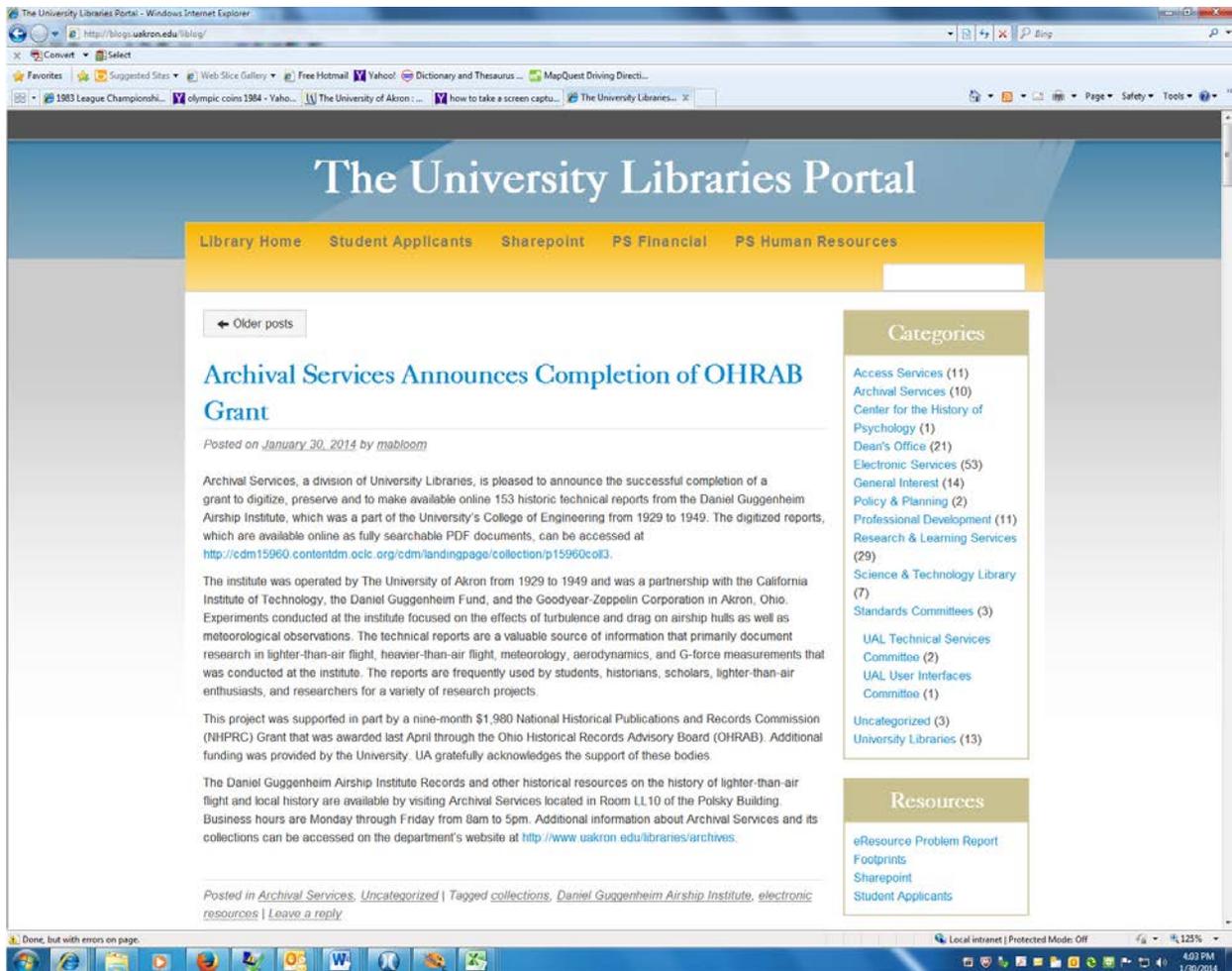
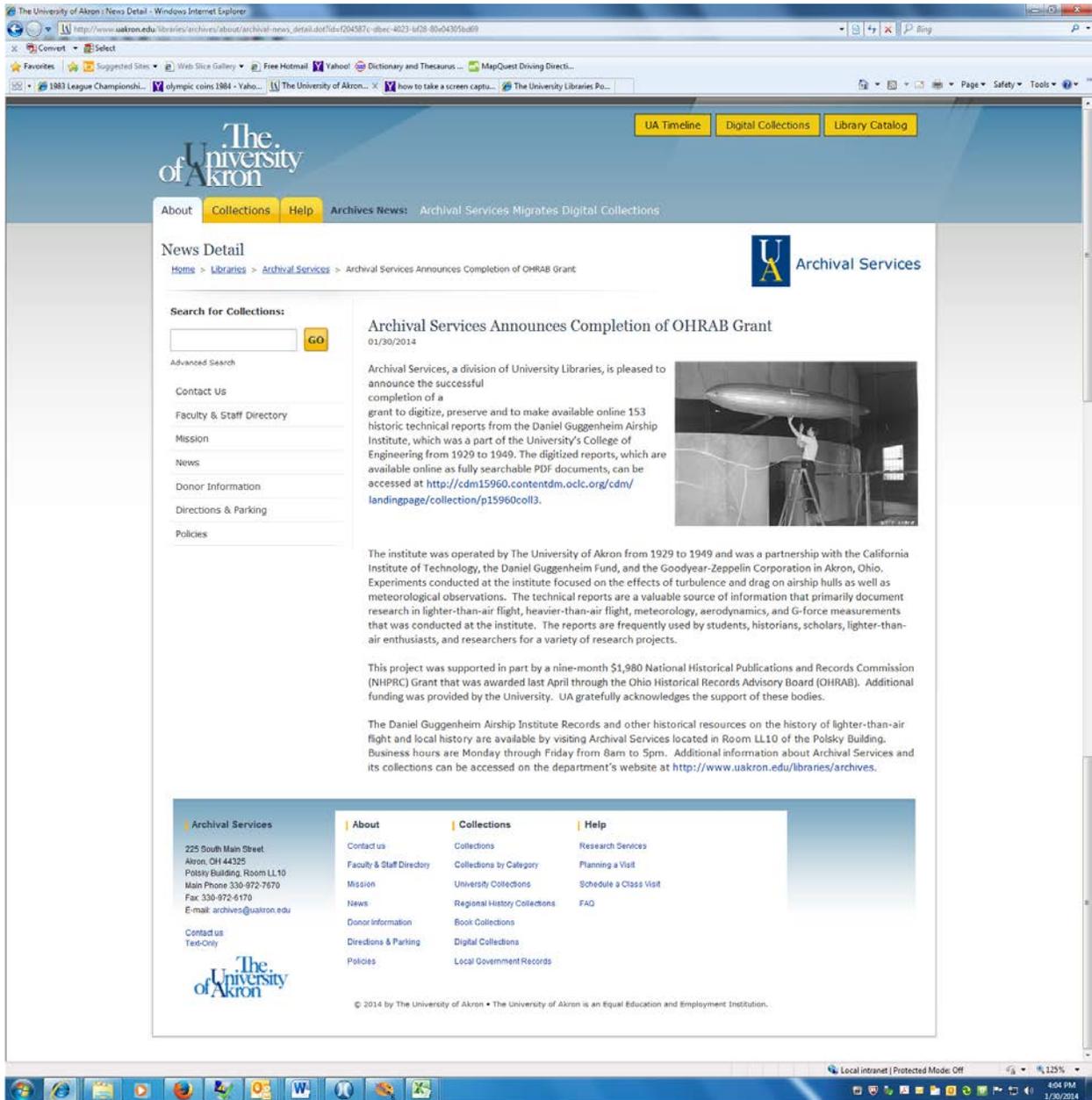


Fig. 4: News Story on University Libraries' Portal Announcing Completion of Grant



**Fig. 5: News Story on Archival Services' Website Announcing Completion of Grant**

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## UA Archives Digitizes Airship Institute Technical Reports

*Ohio Historical Publications and Records grant makes records accessible to the public*

**Akron, Ohio – Jan. 23, 2014** - In March 2013, The University of Akron's Archival Services of University Libraries received a nine-month \$1,980 National Historical Publications and Records Commission (NHPRC) Grant from the Ohio Historical Records Advisory Board (OHRAB). The funding was used to digitize for preservation purposes and to make available online 153 historic and fragile technical reports from the Daniel Guggenheim Airship Institute that are part of the extensive holdings of Archival Services.

The institute was operated by the College of Engineering at The University of Akron from 1929 to 1949 and was a partnership with the California Institute of Technology, the Daniel Guggenheim Fund, and the Goodyear-Zeppelin Corporation in Akron. Experiments conducted at the institute focused on the effects of turbulence and drag on airship hulls as well as meteorological observations.

The technical reports are a valuable source of information that primarily document research in lighter-than-air flight, heavier-than-air flight, meteorology, aerodynamics, and G-force measurements that was conducted at the institute. The reports are frequently used by students, historians, scholars, lighter-than-air enthusiasts, and researchers for a variety of research projects.

During the term of the grant (April 1 to Dec. 31, 2013), Archival Services packed and shipped the reports to Digital Museum Masters, a vendor in Andover, Massachusetts, which digitized the reports and returned them to Akron along with the digital images. Archival Services faculty and staff then created metadata including author, title, date, and subject headings to describe each report, which were recently uploaded to the department's digital archives that uses a digital management asset system called CONTENTdm. The digitized reports, which are available online as fully searchable PDF documents, can be accessed at <http://cdm15960.contentdm.oclc.org/cdm/landingpage/collection/p15960coll3>.

"The technical reports are a unique source of information that document the important research that was being conducted at the University on lighter-than-air flight, an important topic of inquiry" says S. Victor Fleischer, head of Archival Services. "The reports are frequently used by students and scholars to study this important aspect of our past, and the grant helped us to not only preserve the original documents by reducing handling, but also to share them with a broader audience through online access, which are two of our main goals."

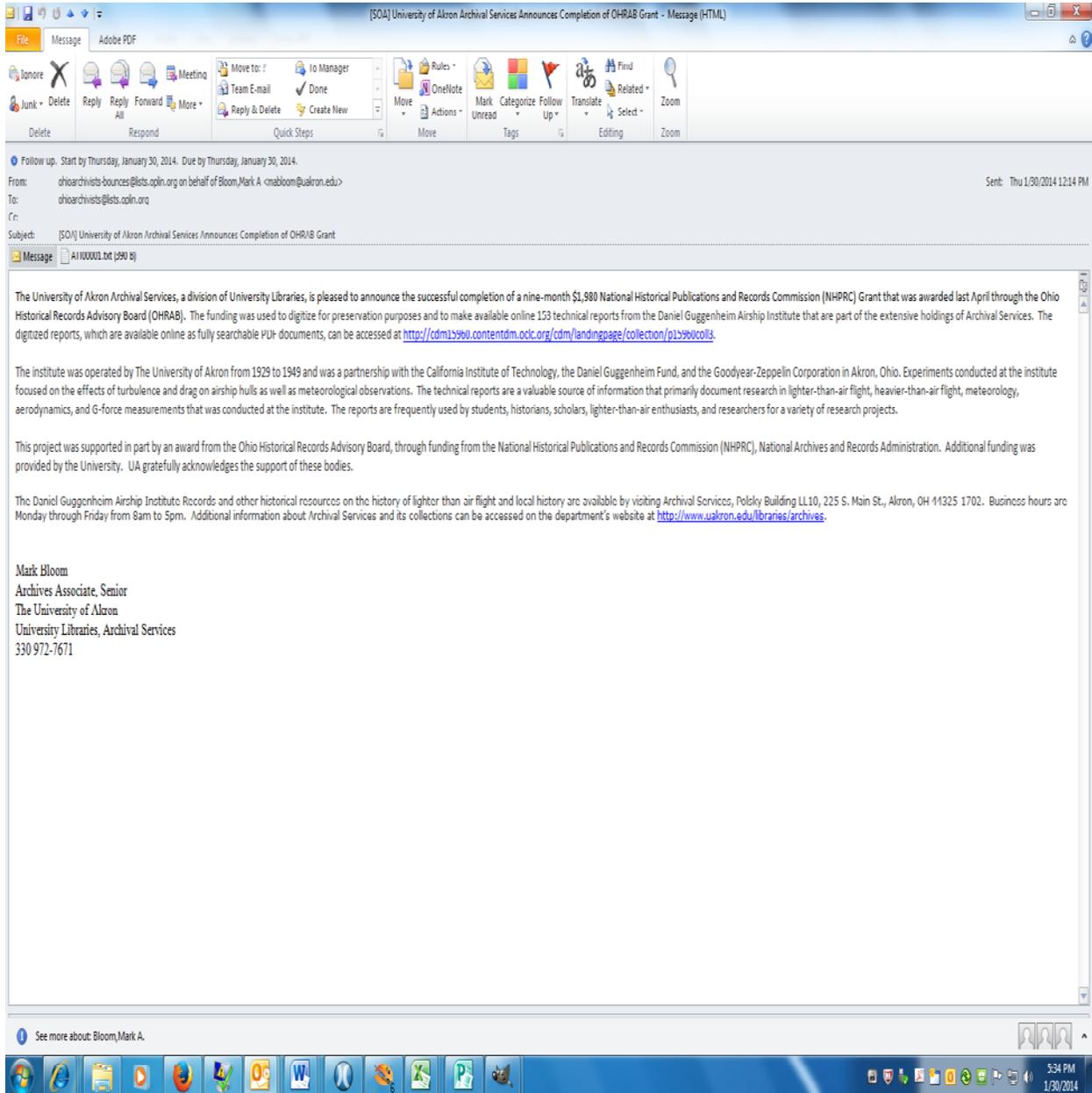
This project was supported in part by an award from the Ohio Historical Records Advisory Board, through funding from the National Historical Publications and Records Commission (NHPRC), National Archives and Records Administration. UA gratefully acknowledges the support of these bodies. Additional funding was provided by the University.

UA's Archival Services is open to students, faculty, staff and the general public, Monday through Friday, 8 a.m. to 5 p.m. Appointments are not necessary, but are preferred.

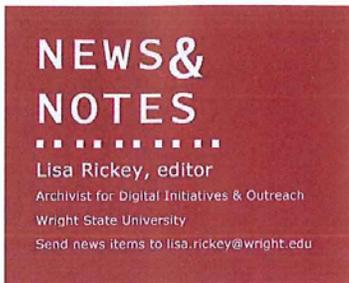
Archival Services, which is part of University Libraries, collects, preserves and provides access to historic resources that primarily document the history of The University of Akron and the region. To learn more, visit [www.uakron.edu/libraries/archives](http://www.uakron.edu/libraries/archives).

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Fig. 6: Press Release Announcing Completion of Grant



**Fig. 7: Announcement on Society of Ohio Archivists Listserv Announcing Completion of Grant**



### **Rock and Roll Hall of Fame and Museum (Cleveland)**

The Rock and Roll Hall of Fame and Museum is pleased to announce its new **Gladys Kriebel Delmas Visiting Scholar Program**, created through a generous gift from the foundation of the same name, which seeks to encourage research in the collections of the Rock Hall's Library and Archives. Applications are now being accepted for grants to fund travel by visiting scholars to the Library and Archives before September 2014. Grants will be in the amount of \$1,000 per week for up to two weeks. Visiting Scholars may use their funds for transportation, housing, and other costs related to their Library and Archives visit and research. Teachers, graduate students, and postdoctoral and independent scholars are encouraged to apply, with preference given to applicants residing outside Northeast Ohio. For application instructions and more information about the Visiting Scholar Program, please visit <http://library.rockhall.com/delmas>. **Review of applications will begin on October 7.** For more information regarding the Rock Hall's Library and Archives and its collections, please visit <http://library.rockhall.com/>.

### **University of Akron Archival Services (Akron)**

The [University of Akron Archival Services](#), a division of [University Libraries](#), recently acquired **The Goodyear Tire & Rubber Company's historic motion picture films**. The collection consists of more than 3,000 films that visually document the history of the world's largest and most influential rubber company. The films date from 1898 to 2007 and are a treasure trove of information on a variety of important topics in American and world history including labor, factory conditions, tire and rubber production, lighter-than-air flight, parade balloons, war products, and motorcycle and automotive racing. Some of the more important historic events captured in the collection include the maiden flight of the *USS Akron*, the 1933 Chicago World's Fair, one of the first Macy's Thanksgiving Day parades, the unveiling of Admiral Richard Byrd's snow cruiser, the 1960 breaking of the land speed record, the building of the Alaska Pipeline, and the Akron Rubber Strike of 1936. Also included is blimp footage of numerous sporting events such as Super Bowls, Olympics, and NASCAR and Grand Prix races. The films, which are inventoried and available to the public, will be of use to students, historians, scholars, and documentary film makers. These and other historic records on the history of Goodyear and the rubber and polymer industry are available by visiting Archival Services.

The University of Akron Archival Services also recently **received a \$1,980 grant from the [Ohio Historical Records Advisory Board \(OHRAB\)](#)**. The funding is being used to digitize for preservation purposes and to make available online 60 technical reports from the Daniel Guggenheim Airship Institute. The institute was operated by The University of Akron from 1929-1949 and was a part-

nership with the California Institute of Technology, the Daniel Guggenheim Fund, and the Good-year-Zeppelin Corporation in Akron, Ohio. Experiments conducted at the institute focused on the effects of turbulence and drag on airship hulls as well as meteorological observations. The technical reports are a valuable source of research that primarily document lighter-than-air flight, heavier-than-air flight, meteorology, aerodynamics, and G-force measurements. The reports are frequently used by students, historians, scholars, authors, and lighter-than-air enthusiasts. The Daniel Guggenheim Airship Institute Records and other resources on the history of The University of Akron and lighter-than-air flight are available by visiting Archival Services.

#### **Warren County Records Center & Archives (Lebanon)**

[Warren County Records Center & Archives](#) recently overhauled and improved its website. Records manager Jen Haney said of the project: "One of the first things I wanted to do when I came on board as Records Manager/Archivist [in February] was to update the website. It hadn't been touched since 2001 and desperately needed attention. It was not user-friendly and did not give researchers/patrons any idea of what we do or have available for research. After meeting with our web development department, I revamped the 'About Us' and 'Research Request' sections and added pages about our mission, staff, our general retention schedule and policies and most importantly, a page devoted to our available records so patrons can get a better idea of what we have... I am proud of how it turned out and hope that this will allow patrons and researchers the

opportunity to explore our holdings and know that we are more than just a county records center." Goals for future improvements to the site include a complete inventory of records available to the public, a "Found it in the Archives" blog, and a digital archive of scanned images available for remote users.

#### **Western Reserve Historical Society (Cleveland)**

The [Western Reserve Historical Society \(WRHS\)](#) in Cleveland, Ohio, has embarked on a project to allow unprecedented access to its manuscript collections. Over the past twenty months, curator of manuscripts Margaret Burzynski-Bays and manuscripts processing supervisor Hannah Kemp-Severence have made more than 2,600 finding aids available in EAD through the [OhioLINK EAD Finding Aid Repository](#). Kent State University MLIS program practicum students Jessica Marra and Lexy Staskiewics also contributed to the success of this project. Through this project, the WRHS Research Library established new policies to implement EAD as the standard for new finding aid creation and began encoding legacy manuscript and photograph collection finding aids. WRHS has already seen an increase in research requests resulting from the enhanced availability of its finding aids online. The Research Library has also launched a [new online cataloging system, Cuadra STAR](#), through which the public can search museum objects and published materials, such as books and newspapers, as well as unpublished collections, including manuscripts and photographs. The catalog can be accessed through the [WRHS website](#). With these tools in place, they look forward to providing greater ac-

**Fig. 8: "News & Notes" Section of Fall 2013 *Ohio Archivist* Announcing Grant Award**

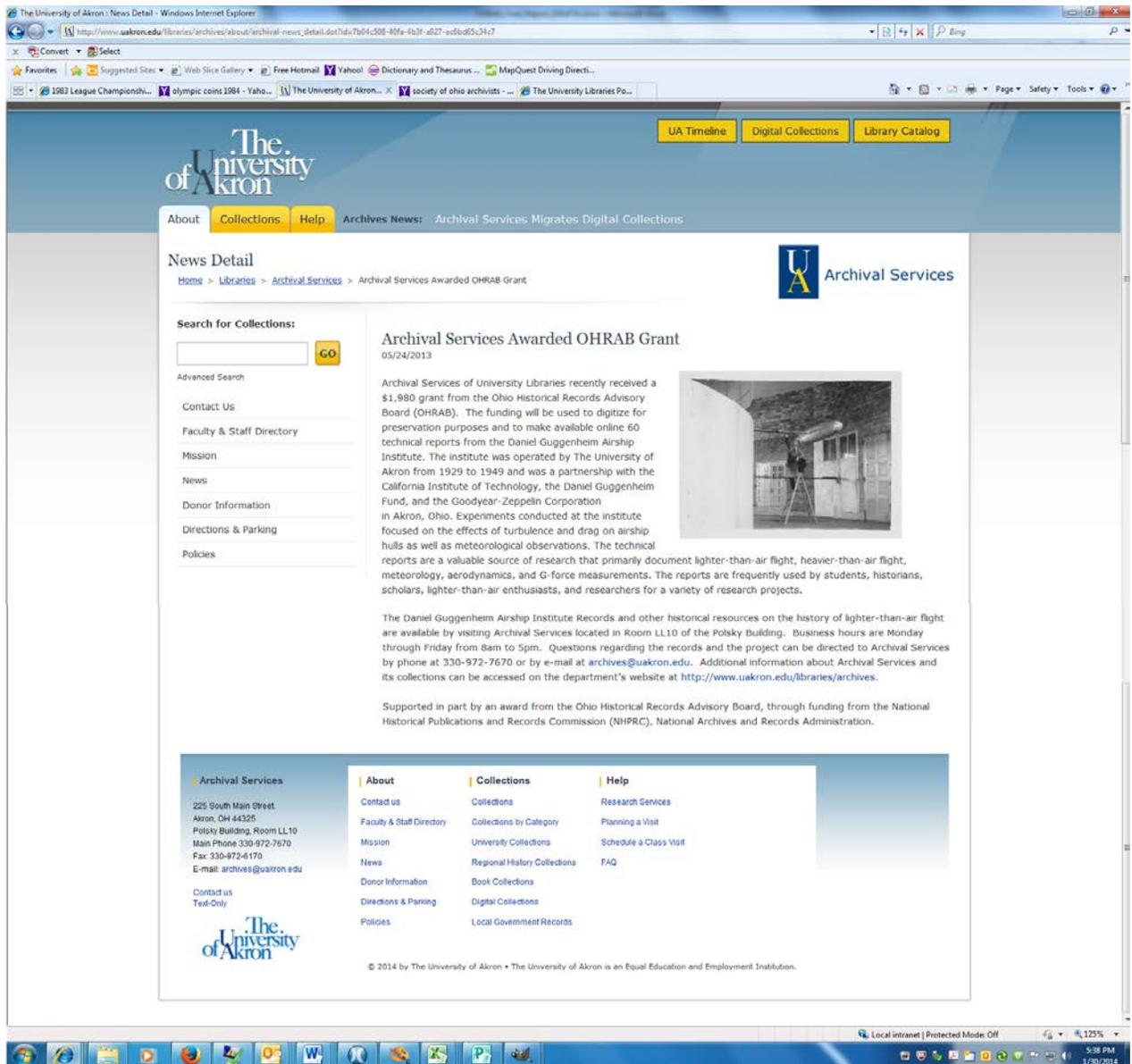


Fig. 9: News Story on Archival Services' Website Announcing Grant Award