Archiving *2011*

May 16–19, 2011
Salt Lake City, Utah

General Co-chairs:
Wayne Metcalfe, FamilySearch
Kate Zwaard, US Government Printing Office

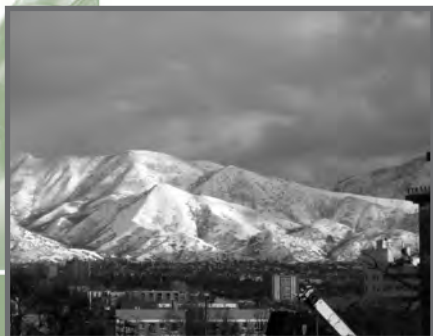**www.imaging.org/ist/conferences/archiving**

Photo: Suzanne Grinnan.

In cooperation with

AIC The American Institute for Conservation of Historic & Artistic Works

ALA ALCTS American Library Association-Association for Library Collections & Technical Services

CNI Coalition for Networked Information

DLF Digital Library Federation

IOP/Printing and Graphic Sciences Group

ISCC Inter-Society Color Council

MCN Museum Computer Network

RPS Royal Photographic Society/Imaging Science Group

SAA Society of American Archivists

Sponsored by
Society for Imaging Science and Technology

IS&T
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FamilySearch
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Conference Overview/Highlights

Archiving 2011's location of Salt Lake City—arguably the genealogy capital of the world—provides a unique opportunity for participants to learn from peers about effective digital archiving approaches, workflows, processes, and solutions to the challenges cultural heritage institutions are facing, while exploring a beautiful part of the US, one that contains a treasure trove of ancestral history. We've worked diligently with our Conference Committee to put together a technically rich meeting that balances an exciting papers program with fun and interesting networking events.

Highlights include:
- 12 short courses, including 10 that have never been taught before at archiving (see page 6)
- 3 keynotes, 33 oral, and 20 interactive technical papers (see page 15)
- A Conference Dinner at This is the Place Heritage Park (see page 3)
- Four fascinating behind-the-scene tours (see page 4)
- A special post-conference reception and performance by the Mormon Tabernacle Choir (see page 3)
- A special post-conference opportunity to do some personal family history research (see page 3)

We hope you will join us for this exciting week and look forward to seeing you in May!

—Wayne Metcalfe and Kate Zwaard, General Co-chairs

Conference At-a-Glance

All technical sessions will take place at the Salt Lake City Marriott Downtown.

Registration Hours

Mon., May 16, 7:00 AM – 5:30 PM
Tues., May 17, 7:15 AM – 5:30 PM
Wed., May 18, 8:00 AM – 5:00 PM
Thurs., May 19, 8:00 – 11:15 AM

Monday, May 16
- Short Course Program (see p. 6)
- Welcome Reception

Tuesday, May 17
- Keynote by David Ferriero, 10th Archivist of United States, National Archives, followed by the Technical Papers program
- Free evening to enjoy Salt Lake City

Wednesday, May 18
- Archiving 2011 Products Exhibit
- Keynote by Jay Verkler, President & CEO, FamilySearch, followed by the Technical Papers program
- Interactive Paper Session
- Conference Dinner at This is the Place Heritage Park (see p. 3)

Thursday, May 19
- Keynote by Michael Wash, Deputy CIO US Department of Transportation, followed by the Technical Papers program, which ends around noon
- Behind-the-Scenes Tours (see p. 4)
- Joseph Smith Memorial Building Reception and Mormon Tabernacle Choir Concert (see p. 3)

Friday, May 20
- Genealogical Research Class at Family History Library (see p. 3)

Venue: Salt Lake City

Located in the great basin of the Western US—at an altitude of 4200 ft (1280 m)—Salt Lake City sits in a bowl atop the Wasatch and Oquirrh mountain ranges and commands a breathtaking vista. In May, spring skiing at nearby resorts should still be available to those inclined to partake.

Because the city is home to the largest genealogical library in the world (FamilySearch's Family History Library), archiving-related activities are a prominant feature of the area.

Salt Lake City has a culturally diverse population, which translates into many fine restaurants offering a wide variety of cuisines. Other area attractions include the Great Salt Lake, a landlocked remnant of an ancient sea and the largest salt lake in the western hemisphere, and many US National Parks, which are within a day's drive.

Accommodations and Transportation

CONFERENCE HOTEL

Salt Lake City Marriott Downtown
www.marriott.com/hotels/travel/slcut-salt-lake-city-marriott-downtown
75 South West Temple
Salt Lake City, Utah 84101
801/531-0800

- $129 (single/double) + $12.72% state and local taxes
- Rate includes complimentary internet in sleeping room and is available May 15-21, plus 3 days prior to and 3 days after, on a space available basis.
- The hotel is a non-smoking facility.
- Check in: 3:00 pm   Check out: noon Early arrivals will be accommodated as soon as possible.
- **Reservation deadline: April 24, 2011**

To receive the discounted rate:
- Call 1-800/228-9290 and note that you are with the Archiving 2011 Conference **OR**
- Go to www.marriott.com/hotels/travel/slcut-salt-lake-city-marriott-downtown and put arcarca in the Group Code field.
- Notice of cancellation must be given

by 6:00 pm local time, day of arrival to receive the full refund deposit. Be sure to obtain a cancellation number.
- Please advise the hotel of any change in date or plan by calling 800/228-9290.

Please Note: There are two Marriotts in the heart of Salt Lake City. Be sure to make your reservations at the "Salt Lake City Marriott Downtown."

TRANSPORTATION NOTES
- The Marriot Downtown is located 6 miles from Salt Lake City International Airport (SLC).
- SLC has non-stop service from many US cities, and to/from Paris every day but Tuesday and Thursday.
- From the airport, Express Shuttle provides service to the hotel for $8.00 (one-way). They are located at the "Ground Transportation Desk" in the baggage claim area of both terminals at SLC. They can be reached at 800/397-0773 or online at www.expressshuttleutah.com.
- Taxis are also available for approximately $25 one way.

Special Events

PLEASE NOTE: While all of these events are included in your conference registration fee, they require a committment when you register.

The enchanting lobby of the Joseph Smith Memorial Building.

Photo: Suzanne Grinnan.

Wednesday, May 18, 2011

Conference Dinner at
This is the Place Heritage Park
sponsored by Tessella Inc.

The West…just as it was! Join us for dinner at Utah's premier "living history" attraction. The 450-acre park offers visitors a look at 19th century frontier life. Depending on timing, attendees may be able to explore the park a bit before sitting down to a hearty and festive dinner of traditional frontier fare, featuring BBQ ribs and strawberry shortcake.

Thursday, May 19, 2011

Thursday Reception and
Mormon Tabernacle Choir Concert
sponsored by FamilySearch

Attendees and guests are invited to a reception in the Empire Room of the historic Joseph Smith Memorial Building, followed by an exclusive concert for Archiving 2011 in the renowned Tabernacle on Temple Square. Don't miss this unique opportunity to mingle then hear the world-famous Mormon Tabernacle Choir, which was recently inducted into the National Radio Hall of Fame and was awarded the National Medal of Arts (the US's highest honor for artistic excellence) by Pres. G.W. Bush.

Friday, May 20, 2011

"Where do I Begin"
Genealogical Research Class at
Family History Library

The desire to learn "where we came from" intrigues many of us. While not a formal part of the program, we are pleased to offer Archiving 2011 participants the opportunity to sign up for a two-hour class on fundamental genealogical research principles and tools. Join the expert Family History Library staff on Friday morning to learn where to start your family history quest, then spend the rest of the day learning more about where you came from.

**Make your plans early and save!
Early Conference and Short Course
Registration Fees
Available until April 17th**

Behind-the-Scenes Cultural Institution Tours

Thursday, May 19, 2011

Archiving 2011 is pleased to announce that the following institutions have agreed to open their doors for the very popular Behind-the-Scenes Tours on the afternoon of May 19th. The length of each tour varies; exact times will be announced approximately one month before the conference (see box on page 5 for details). All tours will end in time for you to participate in the Thursday Evening Reception and Tabernacle Choir event (see page 3). Please note that tranportation, as needed, is provided for all the tours.

University of Utah J. Willard Marriott Library Digital Technologies Equipment and Facilities

The Digital Technologies department at the J. Willard Marriott Library provides digitization services for practically all materials, including print (bound volumes and loose sheets), maps, slides, negatives (including glass plates), audio and video, and even rare and fragile materials such as papyrus. Using a wide array of hardware and software, the library scans physical materials, generates digital images, attaches metadata to those objects, and loads them into a digital asset database to provide general-public access via the Internet. The tour will include a walk-through and demonstration of the library's digitization processes.

Length: 2 hrs
For more information visit
http://content.lib. utah.edu/cdm4/service.php and
http://content.lib.utah.edu/cdm4/ digitalcollections.php

Utah State Archives and the Sorenson Molecular Genealogy Foundation

The Utah State Archives and Records Service manages records created by state and local governmental entities in Utah, and provides access to historical government records that are in the permanent collection. The tour includes the microfilm and digital production operations; the robotic, climate-controlled, high-density storage area for paper records; and the research room.

The Sorenson Molecular Genealogy Foundation (SMGF) is a non-profit research organization that has created the world's largest repository of correlated genetic and genealogical information. The SMGF database currently contains information about more than eight million ancestors through linked DNA samples and pedigree charts from more than 170 countries, approximately 90 percent of the nations of the world. The foundation's purpose is to foster a greater sense of identity combined with a sense of belonging among all people by showing how closely we are connected as members of a single human family. The tour will discuss and demonstrate the application of this technology for genealogical research.

Length: 3 hrs
For more information visit
http://archives.utah.gov/index.html and
http://www.smgf.org/index.jspx

Family History Library and the Church History Library

The Family History Library is the largest genealogical library in the world, with copies of millions of original records, including the names of more than two billion deceased individuals. People come from literally all over the world to search the library's records and find information about their heritage. The tour will discuss how these extensive collections are handled, detail how the new materials currently being digitized by 200 cameras in more than 45 countries are incorporated into the collection, and discuss conservation issues and public access.

The collections of the Church History Library and Archives contain materials chronicling the history of the LDS Church from its beginning in 1830 to the present. The collections contain manuscripts, books, Church records, photographs, oral histories, architectural drawings, pamphlets, newspapers, periodicals, maps, microforms, and audiovisual materials. Storage facilities include 10 main storage rooms kept at 55°F and two special rooms kept at -4°F for color motion picture films, photographs, and records of special significance. The tour gives participants the opportunity to view the ingest, digital object capture/conversion, imaging, microfilming, and curation processes. Processes for digital preservation will also be shown.

Length: 2.5 hrs
For more information visit
http://www.familysearch.org/eng/library/
fhl/frameset_library.asp,
http://www.familysearch.org, and
http://lds.org/churchhistory/library

Special Note on Tours

Advance registration is required; space is limited and reserved on a first-come first-served basis. Everyone who registers by the early registration deadline will receive details on the tours and how to sign up for them immediately following that date. Others will receive details as they register. All tours are free, but participants are responsible for getting to the tour site by the stated time. Buses will be provided for all tours not within walking distance.

Brigham Young University

The tour includes discussions and demonstrations of the multispectral imaging technology used in projects to reveal the content of carbonized scrolls from Petra and Herculaneum. The Herculaneum Papyrus Project, which began at the Maxwell Institute, is now housed in the College of Humanities. The project involves the application of space-age digital photography to some of antiquity's most intractable documents. The Ancient Textual Imaging Group partners BYU with some of the most respected libraries in the world. An explanation and demonstration of the joint project with Internet Archives also is included in the tour, and other technology being developed at BYU for preservation is discussed.

Length: 4.5 hrs
For more information visit
http://www.lib.byu.edu/digital
Transporation will be provided for this tour.

Short Course Program: Monday, May 16, 2011

T1A: JHOVE2 — A Next Generation Framework and Application for File Characterization
8:00 AM – 3:15 PM (6 hours)
Instructors: Stephen Abrams, California Digital Library, and Richard Anderson, Stanford University

JHOVE2 is an open source framework and application for the next generation format-aware characterization of digital objects. Characterization is the process of deriving representation information about a formatted digital object that is indicative of its significant nature and useful for purposes of classification, analysis, and use in digital curation, preservation, and repository contexts. JHOVE2 builds on the success of the original JHOVE characterization tool by addressing known limitations and offering significant new functions, including: object-focused, rather than file-focused, characterization; signature-based file level identification using DROID; aggregate-level identification based on configurable file system naming conventions; rules-based assessment to support determinations of object acceptability in addition to validation conformity; and extensive user configuration options.

The 2011 release of JHOVE2 represents the availability of a significant new tool for digital preservation. This course provides a broad overview of JHOVE2, as well as detailed information on its functionality, architecture, use in local workflows, and open source community.

Benefits

This course enables the attendee to:

- Understand the role of file characterization, including identification, feature extraction, validation, and assessment, in digital curation and preservation workflows
- Appreciate the functionality of the JHOVE2 application, including the significant enhancements relative to JHOVE, and new capabilities based on object- and aggregate-level characterization
- Learn the architecture, componentry, design patterns and Java API's of the JHOVE2 framework, as well as the configuration options for plug-in modules, characterization strategies and results formatting
- Demonstrate the use of JHOVE2's new rule-based assessment capabilities, and integrating these into local workflows to determine object acceptability
- Gain a better understanding of the community framework for the project and how individual institutions can both contribute new format modules as well as resources to help extend and sustain the open source project

Intended Audience: technologists, developers, managers, analysts, and administrators engaged in digital curation, preservation, and repository activities whose work is dependent on an understanding of the format and pertinent characteristics of digital assets

Stephen Abrams is the associate director of the University of California Curation Center at the California Digital Library, where he is responsible for strategic planning, innovation, and technical oversight of the Center's services, projects, and collections.

Participate in the Archiving 2011 Exhibition

An exhibition featuring digital archiving related products and services will run all day Wednesday in the same space as the coffee break and Interactive Papers Session.

**For details, contact Donna Smith
dsmith@imaging.org
+1-703-642-9090 x107**

Short Courses At-a-Glance

Descriptions for short courses begin on page 6.

8:00 AM – 3:15 PM T1A: JHOVE2—A Next Generation Framework and Application for File Characterization	3:30 – 5:30 PM T1D: Color in Image Capture, Archiving . . .

8:00 – 10:00 AM T2A: Introduction to Digital Preservation	10:15 AM – 12:15 PM T2B: Digitizing a Diverse Text Collection	1:15 – 5:30 PM T2C: Implementing PREMIS to Support Digital Preservation

8:00 AM – 12:15 PM T3A: Scanner & Camera Imaging Performance: Bench- marking, Compliance, and Workflow Monitoring	1:15 – 3:15 PM T3C: How to Integrate Optical Storage into . . .	3:30 – 5:30 PM T3D: Storage Technologies for Archiving . . .

8:00 AM – 12:15 PM T4A: JPEG 2000 and JP2 for Image Preservation and Distribution	1:15 – 3:15 PM T4C: Using the Cloud for Digital Archives	3:30 – 5:30 PM T4D: The Journey of A/V Files from Analog to . . .

8:00 AM – 5:30 PM T5A: Getting to Yes: Persuading Senior Management to Implement a Digital Preservation Program

Richard Anderson is a member of the JHOVE2 development team and software engineer with the Digital Library Systems and Services unit of Stanford University. He has been a software developer, system administrator, database administrator, and technical support specialist with Stanford's library system for most of the last 25 years.

T2A: Introduction to Digital Preservation
8:00 – 10:00 AM (2 hours)
Instructor: Gary Wright, LDS Church

This course provides an introduction to the basic principles of digital preservation. It discusses the benefits and challenges of using digital preservation to both augment and enhance the physical preservation of records. It also explores solutions to the challenges, identifies what types of records are suitable for digital preservation, and summarizes what is required to get started archiving digital records.

Benefits
This course enables the attendee to:

- Understand the importance of preserving digital records
- Learn about data backup as an element of digital preservation
- Identify the major challenges of digital preservation and describe some effective solutions to these challenges
- Determine what descriptive information to add to digital records
- Learn how to implement a digital preservation program

Intended Audience: attendees who desire an introduction or a refresher to the basic principles of digital preservation.

Gary Wright is senior product manager of digital preservation for the Church History Department of the LDS Church. He previously held the same position at Family-Search. In these roles, he has helped guide FamilySearch and the LDS Church to become world leaders in digital preservation. Gary earned a masters degree in mechanical engineering from the University of Colorado. Before joining FamilySearch, he directed product marketing for prominent storage technology companies such as Compaq and HP.

T3A: Scanner & Camera Imaging Performance: Benchmarking, Compliance, and Workflow Monitoring

8:00 AM – 12:15 PM (4 hours)
Instructors: Peter Burns, consultant, and
Don Williams, Image Science Associates

The course begins with a discussion of how to interpret imaging performance requirements when selecting components for a digital scanner or camera system. This is followed by an introduction to basic imaging principles. These provide a background for understanding imaging performance for these systems. The use and adaptation of imaging standards and institutional guidelines for the museum or library environments will then be described. Several common problems faced by those providing imaging services, or seeking to improve image content, are included. In each of the cases addressed, the discussion focuses on the selection and development of test plans, performance measurements, use-case acceptance criteria, and characteristics for tests targets and software. Suggestions and tools for corrective action for poor performance will also be provided.

Benefits

This course enables the attendee to:

- Establish accountability for imaging performance problems
- Describe several standards to characterize scanner and camera performance
- Evaluate manufacturers' claims of resolution, dynamic range, and noise
- Identify sources of performance variation in digital image conversion
- Understand user requirements for analysis software tools
- Apply summary measures to monitor of imaging performance
- Develop test plans for and apply corrective-action solutions to ill-behaved performance
- Identify key questions to ask imaging professionals and service providers

Intended Audience: managers, engineers, and technicians interested in evaluating and monitoring scanner and camera performance, and their emerging guidelines. This includes manufacturers, service providers, and content custodians. A working knowledge of digital scanner and camera operation, as well as the common technologies will be assumed.

Peter Burns is an imaging scientist with experience in digital system design, specification, and evaluation. He has worked for Carestream Health, Eastman Kodak, and Xerox Corp. and taught imaging courses for many years, as an adjunct faculty member at Rochester Institute of Technology, and at previous Archiving conferences.

Don Williams is founder of Image Science Associates, a digital imaging consulting and software group. Their work focuses on quantitative performance metrics for digital capture imaging devices, and imaging fidelity issues for the cultural heritage community. He has taught short courses for many years, contributes to several imaging standards activities, and is a member of the Advisory Board for the interagency US Federal Agencies Digitization Guidelines Initiative, FADGI.

T4A: JPEG 2000 and JP2 for Image Preservation and Distribution

8:00 AM – 12:15 PM (4 hours)
Instructor: Robert Buckley, University of Rochester/NewMarket Imaging

This course is intended to provide a firm grounding and practical knowledge in the use and applicability of JPEG 2000 and the associated JP2 file format. After a brief introduction to JPEG 2000 and its history, the course demonstrates JPEG 2000 and describes how it works at a level that enables attendees to understand its features and the factors that most affect its performance. After illustrating the performance of JPEG 2000 for both lossless and lossy compression, the course discusses the JP2 file format, the base file format defined in the JPEG 2000 standard, describing its capabil-

Short Course Fees

If you register:	by April 17	after April 17
2-hour Member	$140	$175
2-hour Non-member	$175	$210
4-hour Member	$260	$295
4-hour Non-member	$290	$325
6-hour Member	$360	$395
6-hour Non-member	$395	$430
8-hour Member	$440	$475
8-hour Non-member	$475	$510

Students may register for any short course for $50 until April 17; $85 after that date.

IS&T reserves the right to cancel classes in the event of insufficient advance registration. Please indicate your interest early.

ities and comparing it with other members of the JPEG 2000 file format family. The course describes a number of applications that use JPEG 2000 before concluding with selected case studies of the use of JPEG 2000 by cultural heritage institutions.

Benefits

This course enables the attendee to:

- List the benefits and features of JPEG 2000
- Understand how to relate JPEG 2000 features and options to requirements
- Understand the capabilities of the JP2 file format
- Explain how JPEG 2000 works and what parameters most affect its performance
- Understand why and how applications are using JPEG 2000

Intended Audience: those in the library, archives, and museum community who are evaluating JPEG 2000 for future applications or who are already using it and want to make the best use of it in current applications.

Rob Buckley is a scientist in the department of electrical and computer engineering at the University of Rochester and the founder of NewMarket Imaging, which works with clients on the capture, preservation, and interchange of digital color images. Formerly a research fellow with Xerox Corporation, he has worked extensively on the application of JPEG 2000 in the cultural heritage community, designing several JPEG 2000 profiles for mass digitization projects and working with the national libraries of four countries on their JPEG 2000 implementations. He currently chairs the CIE committee on Archival Color Imaging and is on the advisory board of the US Federal Agencies Digitization Guidelines Initiative. He is an IS&T Fellow and its executive vice president. Buckley was the founding co-chair of the Archiving conference.

T5A: Getting to Yes: Persuading Senior Management to Implement a Digital Preservation Program

8:00 AM – 5:30 PM (8 hours)
Instructors: Liz Bishoff, The Bishoff Group LLC;
Tom Clareson, LYRASIS; and Tyler Walters,
Virginia Tech Libraries

Many working in digital curation find it challenging to persuade senior managers to invest the time and resources required to implement a digital preservation program. Over the past decade they have not been convinced by messages of obsolete media and the growing volume of digital content that libraries and other cultural heritage organizations have had to manage. At the same time those working with digital collections recognize the growing threat to the collections posed by the various risks.

This course begins with an overview of digital preservation including standards and best practices. Using risk assessment as a planning tool is then introduced, and we apply the results of risk assessment to digital preservation plans. The course ends with in-depth discussions of preservation strategies and solutions, including a guide

for selection of a service(s) and/or software. The course emphasizes the need to work collaboratively to assure success.

The content for this course was developed based on national and regional survey data, working with individual institutions that have developed campus-based collaborations to implemented digital preservation programs.

Benefits
This course enables the attendee to:
- Explore the questions of why to implement and what to include in digital preservation program
- Understand the foundational standards of a digital preservation program
- Learn how to use risk assessment as a preservation planning tool
- Know what questions to ask to determine what is the best implementation plan for a digital preservation solution

Intended Audience: those who have led the implementation of a digital program or institutional repository, including digital librarians, archivists, and preservation librarians, as well as technologists working on digital libraries. Also those who have to make decisions regarding sustaining digital collections.

Liz Bishoff has been working with libraries and cultural heritage institutions for more than a decade on building digital programs at the institutional and collaborative level. She has been the principal investigator on more than a half dozen state and federal grants including NEH and IMLS National Leadership Grants. Bishoff was a faculty member of the NEDCC nationally-recognized School for Scanning series, NEDCC's Stewardship of Digital Assets, and the project director for the current NEH funded Stay on TRAC digital preservation workshop series. Bishoff and Clareson have conducted close to 20 digital preservation readiness assessments in a wide variety of libraries and museums.

Tom Clareson, currently a LYRASIS senior

consultant, has more than 20 years of experience in preservation. Most recently he has worked with 20 states as part of the IMLS Connecting to Collections Statewide planning initiative. Clareson has done dozens of traditional preservation assessments, along with many digital preservation readiness assessments in conjunction with Bishoff. He is a frequent faculty member for organizations such as NEDCC, including the School for Scanning, Stewardship of Digital Assets, and Staying on TRAC.

Tyler Walters, as Dean of University Libraries at Virginia Tech, has lead many digital initiatives along with an implementation of the LOCKSS program for e-journal preservation as well as the MetaArchive cooperative network for preservation of other digital resources. He is a member of the Educopia executive committee, the not-for-profit organization that manages the MetaArchive program. Walters is a frequent speaker and faculty member at national and international digital curation programs.

T2B: Digitizing a Diverse Text Collection
10:15 AM – 12:15 PM (2 hours)
Instructors: Dennis L. Meldrum and Jeri Jump, FamilySearch

The Family History Archive is a growing collection of thousands of digitized, full-text genealogy and family history books, magazines, periodicals, medieval texts, and international gazetteers. The books come from the collections of seven partner libraries. The archive is used in this course as a case study for how to implement a digitization program.

We begin by discussing the processes, software, and hardware used to digitize so many types of text. We then examine how other libraries and archives could implement a similar program.

Topics include how digitized books can help patrons in their research; what kind(s) of usage one can expect; how large or small archives can implement a book digitization project; and what lessons learned that might make the task of others easier.

We also discuss the reasons partner

libraries joined the project, how they were selected, and what criteria they follow to place books in the collection.

Benefits

This course enables the attendee to:

- Understand the processes, software, and hardware needed to implement a digitization project
- Learn which are the right questions to ask
- Discuss how to overcome problems with tracking books, tracking images, tracking steps in the process, space planning, and metadata storage
- Understand how to design, implement, and support a digitizing center

Intended Audience: librarians and archivists interested in establishing a large digital book collection

Dennis L. Meldrum, has been with FamilySearch since 1981. He currently serves as manager of the Historical Book Operations and assists with camera operations in Asia and the Pacific. Previously Meldrum was the senior product specialist for the Pedigree Resource File, PAF Companion, and Freedman's Bank Records. He has a BA in political science and an MLS Degree from BYU.

Jeri Jump, has 20 years experience in converting print media to digital. She has been involved with the Family-Search book digitizing project since its inception and is the system administrator. She designed, implemented, and supports the current system for digitizing books. Previous to her experience at FamilySearch, she worked in the software industry in various capacities. She has a BS in psychology from BYU.

T2C: Implementing PREMIS to Support Digital Preservation
1:15 – 5:30 PM (4 hours)
Instructors: Priscilla Caplan, Florida Center for Library Automation, Rebecca Guenther, US Library of Congress; and Kate Zwaard, US Government Printing Office

The course provides an overview of the status of the *PREMIS Data Dictionary for Preservation Metadata* with a particular focus on implementation issues. PREMIS has become the de-facto standard for metadata to support the long-term preservation of digital objects. As PREMIS has matured in its development, practical use of the data dictionary in repository systems has resulted in revisions and enhancements. This course describes changes to the PREMIS Data Dictionary and data model; discusses issues that institutions are confronting in implementing it; and shows tools for, and case studies of, PREMIS implementation. Ample time will be given for discussion, and participants are encouraged to contribute their experience in planning or executing an implementation program.

Benefits

This course enables the attendee to:

- Learn about the status of the development of this standard
- Understand the interoperability of PREMIS with other standards
- Define data model issues
- Illustrate some specific implementations of PREMIS in digital repositories
- Gain knowledge of the tools for creating and transforming PREMIS metadata
- Introduce the use of PREMIS as Linked Data
- Review controlled vocabularies in PREMIS

Intended Audience: anyone involved in selecting, designing, planning, or implementing a preservation project or repository using preservation metadata. Basic knowledge of

preservation metadata and PREMIS in particular is required.

Priscilla Caplan is assistant director for Digital Library Services at the Florida Center for Library Automation, where she oversees the Florida Digital Archive, a preservation repository for the use of the 11 state universities of Florida. She has been involved with digital preservation for nearly 10 years and has published several articles on the subject. She co-chaired the RLG-OCLC working group that produced the PREMIS Data Dictionary for Preservation Metadata, *she currently serves as a member of the PREMIS editorial committee.*

Rebecca Guenther is senior networking and standards specialist in the Network Development and MARC Standards Office of the Library of Congress. Her current responsibilities include work on national and international information standards, primarily in the area of metadata She is chair of the PREMIS editorial committee and was co-chair with Priscilla Caplan of the RLG-OCLC PREMIS working group that produced the PREMIS Data Dictionary for Preservation Metadata.

Kate Zwaard is the United States Government Printing Office's lead program planner for digital preservation in the Federal Digital System, a state-of-the-art content repository and public access system. Her areas of focus include content authentication, preservation processes, metadata management, and IT project management. Zwaard is a member of the PREMIS editorial committee.

T3C: How to Integrate Optical Storage into an Archiving Solution
1:15 – 3:15 PM (2 hours)
Instructor: Wayne Rust, Millenniata

This course helps attendees gain the knowledge required to make informed decisions regarding the use of optical media as a storage component. An emphasis is placed on using optical media for long-term archival storage. Examples of current implementations are provided and discussion about the future of optical media including CD, DVD, and BluRay recordable discs discussed. Both hardware and software are covered,

focusing on integrating optical media into both existing and new solutions.

Benefits
This course enables the attendee to:
- Gain a basic understanding of optical media
- Learn about the advantages and disadvantages of using optical media for archiving solutions
- Understand handling and storage requirements
- Compare current optical media options
- Discuss future trends of the optical media industry
- Evaluate the total cost of ownership of optical media solutions

Intended Audience: anyone required to store information for long periods of time.

Wayne Rust is currently a director for Millenniata, a vendor of archival recordable optical media. He has been involved with recordable optical media since it first became available, creating unique indexing solutions for large data storage on CDs. As a software developer and consultant he has implemented solutions for many large companies and institutions including Novell, Ameritech Library Services, Motorola, and IBM.

T4C: Using the Cloud for Digital Archives
1:15 – 3:15 PM (2 hours)
Instructor: Michael Peterson, SNIA

The use of the "Cloud" for digital archives to reduce cost and to potentially improve long-term retention capabilities is a real and viable option for many organizations. However, the issues and risks are real and must be dealt with carefully, and with knowledge. Even the architectures and components of the Cloud present many options. This course covers key elements of a Cloud Archive including planning, use cases, architectures, operations, service catalogs, service requirements, audits, risk management, storage infrastructure, and preservation services.

Benefits

This course enables the attendee to:

- Learn which architectures make sense for your organization and why
- Appreciate the pros and cons of using the Cloud for preservation
- Understand the risks and hazards of the Cloud and how to guard your service from them
- Learn how to protect your organization and its information assets through service requirements and how to measure them

Intended Audience: digital preservation practitioners, planners, IT professionals, and those involved in the implementation and support of a digital preservation repository. Prerequisite: Operational IT experience, including storage and networking systems and data services are assumed.

Michael Peterson is an accomplished engineer and IT architect with 37 years of experience in digital preservation, storage systems, and data and information management services. He currently volunteers for the Storage Networking Industry Association (SNIA) as chief strategy advocate, where he leads development of best practices, standards, and market education in service areas such as long-term retention, preservation, and cloud-archiving. He also consults and designs digital preservation systems for clients.

T1D: Color in Image Capture, Archiving, and Reproduction

3:30 – 5:30 PM (2 hours)
Instructor: Robert Buckley, University of Rochester/NewMarket Imaging

This course begins with an introduction to color science and color management, with an emphasis on how they affect the color image workflow steps from capture through archival storage to reproduction. It covers the different transformations and renderings that a color image undergoes in the workflow, as well as the color encodings that are appropriate at different stages. It addresses the color encodings used by archival image formats, such as TIFF, JP2, and PDF/A, and defined by the ICC. The course concludes with illustrative examples and case studies.

Benefits

This course enables the attendee to:

- Understand the basics of colorimetry, color encodings, and color management as they apply to archival workflows
- List the transformations and encodings a color image goes through from capture through archiving to reproduction
- Understand ICC color management
- Explain the different archival color encodings and formats

Intended Audience: those in the library, archives, and museum community interested in getting a better understanding of the color science and engineering underlying their workflows and implication for what they do now and in the future.

See bio, under T4A, page 8.

T3D: Storage Technologies for Archiving: Current State and Projected Innovations

3:30 – 5:30 PM (2 hours)
Instructor: Barry M. Lunt, Brigham Young University

Those responsible for archiving digital data should be aware of the current and projected options for storing their data, as well as the characteristics of each of these options. Characteristics to be studied include how each technology works and the inherent characteristics and vulnerabilities that result from how the technology works. Current technologies to be covered include magnetic tape, hard disc drives, flash memory, and optical discs. The projected technologies to be covered include memristors, ferro-electric RAM, nanotube RAM, Zero-

capacitor RAM, Heat-Assisted Magnetic Recording (HAMR), holographic optical discs, and multi-layer optical discs.

Benefits

This course enables the attendee to:

- Summarize the various storage technologies available today
- Compare current storage technologies in terms of cost, capacity, data transfer speed, and life expectancy of the data
- Understand the nature of digital errors and their impact on data readback
- Describe the failure mechanisms for all types of digital media available today and the characteristics of projected innovations in data storage technology

Intended Audience: anyone interested in knowing their options for storing digital data and how these options compare. This would include those responsible for making technology decisions in data storage.

Barry M. Lunt is a full professor of information technology at BYU. He has taught for 23 years and worked for seven years as a design engineer with IBM. His research has developed a DVD for permanent storage for digital data. He holds five US patents, has 20 patents applied for, and has published one book and more than 30 papers. Lunt has a BS in electronics and an MS in manufacturing and electronics from BYU, and a PhD from Utah State University.

T4D: The Journey of A/V Files from Analog to Bits and Bytes
3:30 – 5:30 PM (2 hours)
Instructor: Kinza Masood,
J. Willard Marriott Library

This course is intended to provide information on, but not limited to, the analog-to-digital file conversion process, what to do with the digital file, how to preserve the digital file (including information on formats), and how to make digital content available to the public for online viewing (including information on streaming formats).

The course covers the process of converting an A/V file from an analog to a digital format, as well as provides an overview of the process and equipment used; what happens once we have a digital file; formats and conversion formats for streaming and file sharing; preservation; and quality control measures used at the J. Willard Marriott Library's digital technologies department.

Benefits

This course enables the attendee to:

- Analyze the state of their analog content and identify the importance of conversion to digital format, and its preservation
- Determine the appropriate tools needed to convert an analog file to a digital format, or determine the resources needed to assist a student with this process
- Operate a file encoder to convert the raw file to a format appropriate for archiving and preservation
- Operate a file encoder to compress the digital source file to a format suitable for online streaming
- Learn about the various options for online web viewing and media management system

Intended Audience: anyone interested in learning about the process of converting analog A/V content to digital format, and archiving and preserving digitized A/V content.

Kinza Masood started working at the University of Utah's J. Willard Marriott Library as a part-time employee in 2000. She has a degree in Business, with an emphasis in Information Systems. Masood works in the Digital Technologies Department as a digital production manager, where one of her responsibilites is managing the AV program within the Digital Production area.

Technical Program

Tuesday May 17, 2011

8:40 - 9:30 AM
WELCOME AND KEYNOTE

Creating a Digital Future: The National Archives and Information Technology, *David Ferriero, National Archives (USA)*

9:40 AM - 5:20 PM
TUESDAY PAPERS PROGRAM

Long-Term Access to Archival Materials That are not in a Traditional Archives, *Nancy Marrelli and Kim Sawchuk, Concordia University, and Nick Woodridge, University of Toronto (Canada)*

Implementation of a High Performance Architecture for Managing and Storing Web-Harvested Collections, *Michael Smorul and Joseph JaJa, University of Maryland (USA)*

Using Tape for Large-Scale Digital Preservation, *Gary Wright, FamilySearch (USA)*

Moving On: When it is Time to Re-Archive, *Michael Selway, Quantum Corporation (USA)*

FamilySearch: An End-to-End Process for Scanning, Characterizing, Preserving and Providing Access to Very Large Collections of Vital Records, *Tom Creighton, FamilySearch (USA); Jonathan Tilbury, Tessella plc (UK); and Mark Evans, Tessella Inc. (USA)*

Access and Preservation: Addressing Challenges of Linking Cultural Heritage Datasets, *Fenella G. France, Library of Congress, and Michael B. Toth, R.B. Toth Associates (USA)*

The Audit and Certification of FDsys, *David Walls, US Government Printing Office (USA)*

How Long is Long-Term Data Storage? (Focal), *Barry M. Lunt, Brigham Young University, and Douglas Hansen, Wayne Rust, and Mark Worthington, Millenniata, Inc. (USA)*

Quality Assurance of Digital Information in Long-Term Digital Preservation, *Margarita Korenkova and Ann Hägerfors, Lulea University of Technology (Sweden)*

Policy-Driven Ingest—A Graphical User Interface to iRODS, *Mike C. Conway,*

Jewel H. Ward, Antoine de Torcy, Hao Xu, Arcot Rajasekar, and Reagan W. Moore, University of North Carolina at Chapel Hill (USA)

The Capture and Publication of the Word's Records: The Key is the Metadata, *Paul D. Abbott and Emily S. Schultz, FamilySearch (USA)*

Images in 3D Digitizing, *Esa Hannus and Osmo Palonen, Mikkeli University of Applied Sciences (Finland)*

Towards Interoperable Preservation Repositories: Repository Exchange Package Use Cases and Best Practices, *Joseph Pawletko, New York University, and Priscilla Caplan, Florida Center for Library Automation (USA)*

SARKK—Comprehensive Digital Archive Services for Finnish Municipalities, *Katariina Ryhänen, Etelä-Savon Tietohallinto Oy (Finland)*

IT Professionals and Archivists Need Common Studies In Digital Archiving, *Mirja Loponen, Paula Siitonen, and Osmo Palonen, Mikkeli University of Applied Sciences (Finland)*

Wednesday May 18, 2011

8:40 - 9:30 AM
AWARDS PRESENTATION AND KEYNOTE

Preservation in a Digital Age, *Jay Verkler, FamilySearch (USA)*

9:40 AM - 3:30 PM
WEDNESDAY PAPERS PROGRAM

Enhanced Education for Better Imaging Practices: A Case Study for Improving and Understanding Existing Imaging Guidelines, *Paul Conway, University of Michigan, and Don Williams, Image Science Associates, LLC (USA)*

Curation of the End-of-Term Web Archive: Classification and Metrics, *Kathleen Murray,*

Lauren Ko, and Mark Phillips, University of North Texas (USA)

Inspiring Research, Inspiring Scholarship: The Value and Benefits of Digitised Resources for Learning, Teaching, Research and Enjoyment, Simon Tanner, King's College London (UK)

Color In Digital Preservation, Robert Buckley, University of Rochester/NewMarket Imaging; Steven Puglia, National Archives and Records Administration; and Michael Stelmach, Library of Congress (USA)

Accurate Color? A Preliminary Investigation into the Color Gamut of Selected Special Collection Library Objects, F. Barry Wheeler, Library of Congress, and Michael Bennett, University of Connecticut (USA)

Multispectral Image Archiving of Watermarks in Historical Papers, Peter Meinlschmidt, Wilhelm-Klauditz-Institut, Fraunhofer-Institute for Wood Research, and Volker Märgner, Technische Universität Braunschweig (Germany)

Implementing a Quality Assurance Program for Monitoring Scanner Performance, Michael J. Horsley and John T. Berezich, National Archives and Records Administration (USA)

DAITSS Grows Up: Migrating to a Second Generation Preservation System (Focal), Priscilla Caplan and Carol Chou, Florida Center for Library Automation (USA)

A Community Driven Micro Services Architecture Supporting Long Term Digital Preservation, Mark Evans and Bill Steel, Tessella Inc. (USA), and Robert Sharpe, James Carr, Alan Gairey, and Jonathan Tilbury, Tessella plc (UK)

Automated Metadata Creation to Enhance Search Capabilities in GPO'S Federal Digital System, Lisa LaPlant and Blake Edwards, US Government Printing Office (USA)

The Case for Implementing Core Descriptive Embedded Metadata at the Smithsonian, Stephanie Christensen, National Anthropological Archives Smithsonian Institution, and Doug Dunlop, Smithsonian Institution Libraries (USA)

4:00 - 5:20 PM
INTERACTIVE PAPER SESSION

Swinging in the Archives: In-House File Transfer of DATs, Lynda Schmitz Fuhrig, Smithsonian Institution Archives (USA)

Bi-Modal Search and Discovery Service for a Large Digital Records Archives, Quyen L. Nguyen, National Archives and Records Administration (USA)

Long-Term Storage of Digital Data on Cinematographic Film, Christoph Voges, Technische Universität Braunschweig; Jan Fröhlich, CinePostproduction GmbH, and Tim Fingscheidt, Technische Universität Braunschweig (Germany)

Preservation of Documents and Photographic Images: Long Term Strategies for Future Generations, Joseph E. LaBarca, JEL Imaging Services, LLC (USA)

Metadata Capture and Geospatial Records, Elizabeth Perkes, Utah State Archives and Records Service; Glen McAninch, Kentucky Department of Libraries and Archives; Kelly Eubank, North Carolina Department of Cultural Resources; and Alec Bethune, North Carolina Center for Geographic Information and Analysis (USA)

One Stone, Two Birds: Data Assessment Framework for Digital Collection Audit and Preservation, W. Aaron Collie, Lucas Mak, and Shawn W. Nicholson, Michigan State University (USA)

TRAC-Based Auditing of LOCKSS: Using the SAFE-Archive System, Micah Altman, Harvard University, and Jonathan Crabtree, University of North Carolina at Chapel Hill (USA)

Building and Sustaining Digital Collections through Partnerships: Brigham Young University's Harold B. Lee Library and the Internet Archive, Elizabeth Smart, Brigham Young University (USA)

The Open Parks Grid: Planning for Mass Digitization and Challenges of Scale, Emily B. Gore, Clemson University Libraries, and Robin L. Dale, LYRASIS (USA)

The Challenge of Preserving Database-

Driven Web Content, *Denis Galvin, Rice University, and Bill Anderson, Georgia Tech (USA)*

Transport Neutral Digital Object Replication, *Mark Phillips and Kurt Nordstrom, University of North Texas (USA)*

Trusted Digital Repository Design: A Policy-Driven Approach, *Richard Marciano and Chien-Yi Hou, University of North Carolina at Chapel Hill (USA)*

Herbar Digital—A Solution For Efficiently Digitizing Large Collections of Herbal Specimens, *Jan-Willem Rossée and Christian Gregoire, LaserSoft Imaging AG, and August Potthast, University of Applied Sciences and Arts (Germany)*

Web Harvesting, *Sarah Walch, US Government Printing Office (USA)*

Case Study of a New York Museum's New Digital Lab, *Michael Ulsaker, Ulsaker Studio, Inc. (USA)*

Using GPUs to Improve Image Processing Throughput at FamilySearch, *Ben Baker, FamilySearch (USA)*

Continuous Archiving of Group Digital Photograph Collections with a MPEG-7 Based Crowd Sourcing Annotation Methodology, *Pei-Jeng Kuo, Po-Yu Cheng, and Wei-Chen Su, National Chengchi University (Taiwan)*

Why 300ppi? Requirements-Based Methodology for Determining Your Digitization Project Specs, *Matt Pearson, Stanford University Libraries (USA)*

Colorite: A Flexible Cross-Platform Software Solution for Automatic Image QualityAnalysis Using Arbitrary Targets, *Henrik Johansson, National Library of Sweden (Sweden)*

Growing a Mutually-Beneficial Digital Curation Internship Program that is Sustainable and Low Cost, *R. Niccole Westbrook and Michele Reilly, University of Houston Libraries (USA)*

Thursday May 19, 2011

8:40 - 9:30 AM
KEYNOTE

Preservation Starts from the Beginning, *Michael Wash, US Department of Transportation (USA)*

9:40 AM - 12:30 PM
THURSDAY PAPERS PROGRAM

Attitudes about Institutional Archiving of Social Media, *Catherine C. Marshall, Microsoft Research and Frank Shipman, Texas A&M University (USA)*

A Sound Vision on Mass Digitisation: Quest for the Sweet Spot to Turn 17,500 Hours of Film into an Asset, *Tom De Smet, Henk den Bok, Harm Jan Triemstra, and Erwin Verbruggen, Netherlands Institute for Sound and Vision (the Netherlands)*

Transitioning to International Imaging Standards at The Metropolitan Museum of Art: A Case Study, *Scott Geffert, Center for Digital Imaging Inc. (USA)*

What if the Image Quality Analysis Rates My Digitization System a " No Go"?, *Dietmar Wueller, Image Engineering (Germany)*

Establishing Resolution Requirements for Digitizing Transmissive Content: A Use Case Approach, *Michael Stelmach, Library of Congress; Don Williams, Image Science Associates LLC; and Steven Puglia, National Archives and Records Administration (USA)*

Digitise More, Pay Less: Optimising the Workflow for Heritage Institutes, *Margot Knijn, Netherlands Institute for Sound and Vision (the Netherlands)*

Digitise More, Pay Less: Optimising the Workprocess for both Heritage Institute and Imaging Provider, *Olaf Slijkhuis, Pictura Imaginis (the Netherlands)*

The Thurdsay papers program is followed by complementary tours; see page 4 for details.

Archiving 2011 Conference Registration

Given Name_____ Family/Surname _____

Title/Position _____

Company _____

Mailing Address _____

_____

Telephone _____ Fax _____ Email _____

Not a member? Join today and calculate all fees based on member rates.
Membership expires 12/31/11; for students, 9/30/11:

___ $95 US address ___$105 overseas address ___$25 Student   Total $ _____
Complimentary online journal: ❑ J.Imaging Sci&Tech   ❑ J.Electronic Imaging

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Conference registration includes the conference proceedings and admission to all technical sessions, coffee breaks, the Welcome and Thursday Receptions, the Conference Dinner, Behind-the-Scenes Tours, choir performance, and Friday genealogy class. Separate registration is required for short courses. Register online at www.imaging.org/ist/conferences/archiving or fax to +1-703-642-9094.

Conference Registration (CHECK ONE)	until April 17	after April 17	TOTAL
___ IS&T Member / ___ Non-member	$499/$599	$599/$699	$ _____
___ Speaker Member / ___ Non-member	$399/$499	$499/$599	$ _____
___ Chair Member / ___ Non-member	$399/$499	$499/$599	$ _____
___ Student Member___ / ___ Non-member	$135/$165	$165/$195	$ _____
___ One-day ❑ Tues. ❑ Wed. ❑ Thurs.	$300	$375	$ _____

THERE IS NO CHARGE FOR THE FOLLOWING, BUT THEY REQUIRE A COMMITMENT TO ATTEND
___ I will attend the Conference Dinner (see page 3)
___ I will attend the Thurs. Reception & Choir Performance (see page 3)
___ I will attend the Friday Genealogy class (see page 3)

Short Course Registration (be sure to multiply number of classes by per course fee and place on total line)
*Students may register for any short course at $50 until April 17 and $85 after that date

	until April 17	after April 17	TOTAL
___ 2-hour Member (per class)	$140	$175	$ _____
___ 2-hour Non-member (per class)	$175	$210	$ _____
Check all that apply: ❑ T2A ❑ T2B ❑ T3C ❑ T4C ❑ T1D ❑ T3D ❑ T4D			
___ 4-hour Member (per class)	$260	$295	$ _____
___ 4-hour Non-member (per class)	$290	$325	$ _____
Check all that apply: ❑ T3A ❑ T4A ❑ T2C			
___ T1A 6-hour Member	$360	$395	$ _____
___ T1A 6-hour Non-member	$395	$430	$ _____
___ T5A 8-hour Member	$440	$475	$ _____
___ T5A 8-hour Non-member	$475	$510	$ _____

Other

___ Extra Archiving 2011 Proceedings (special advance purchase/on-site rate)		$95	$ _____
___ Guest Ticket (Welcome & Thurs. Receptions and Conf. Dinner)		$100	$ _____
		GRAND TOTAL	$ _____

Payment Method: ❑ MC   ❑ VISA   ❑ American Express   ❑ Discover
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