

PRELIMINARY PROGRAM

ARCHIVING2013

April 2 – 5, 2013 • Washington, DC



www.imaging.org/ist/conferences/archiving

General Chair: Peter Burns, Burns Digital Imaging

Sponsored by
Society for Imaging Science and Technology

Cooperating Societies

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 | ISCC Inter-Society Color Council |
MCN Museum Computer Network | RPS Royal Photographic Society/Imaging
Science Group | SAA Society of American Archivists



CONFERENCE OVERVIEW/HIGHLIGHTS

Washington DC, center for cultural and scientific institutions, hosts Archiving 2013. This tenth annual conference will be held in the National Archives Building just off the National Mall, where experts from industry, academia, and government will share the latest information about digital stewardship, preservation, and imaging.

Our program is organized in a single-track format to promote the greatest exchange of information from the various communities represented. The conference features two important and timely keynote talks:

- Paul Wester, National Archives and Records Administration (NARA), discusses the US Federal Government's planned transition to electronic records.
- Doug Munson, Chicago Albumen Works, and Carl Stephan, Joint POW/MIA Accounting Command (JPAC), discuss the identification of US prisoners of war (POWs) and missing in action (MIAs) servicemen via the recovery and digitization of deteriorated acetate x-rays.

Other highlights include:

- CURATECAMP, an "unconference" session on Tuesday afternoon, where practitioners and technologists define the agenda on the spot, organizing discussions on the most important, timely topics for the participants.
- Eight short courses, including five new offerings.

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IMPORTANT NOTES

There is no onsite registration for Archiving 2013. Attendees must register for the event by Friday, March 29th.

Registration is limited to 275 people, so please get your registration in early.

The Hotel Registration Deadline is Friday, March 8th.

As in the past, Archiving 2013 attendees are invited to join tours of several Washington, DC area digital preservation operations. All tours will take place on Thursday afternoon. Details will be sent to registered attendees closer to the dates of the conference.

Please join us for this valuable and stimulating meeting to learn about the latest developments in the world of digital stewardship, preservation, and related imaging—during a time when Washington is at its most inviting.

—Peter Burns,

Archiving 2013 General Chair

CONFERENCE AT-A-GLANCE

All short courses and technical sessions will take place at the US National Archives, 700 Pennsylvania Ave, NW, Washington, DC. For information, go to www.archive.gov/

Registration Hours

Tues., June 12, 7:30 AM - 5:30 PM

Thurs., June 14, 8:30 AM - 3:00 PM

Wed., June 13, 8:00 AM - 5:00 PM

Fri., June 15, 8:30 AM - 12:30 PM

Tuesday, April 2

- Short Course Program (see p. 5)
- CURATECAMP Unconference (see p. 7)

Wednesday, April 3

- Keynote by Paul Wester, National Archives and Records Administration
- Technical Papers Program
 - Digital Preservation I
 - Exhibitor 2-minute previews
 - Archiving of Art
 - Film as Storage Medium
 - Interactive Paper Session I
 - Imaging Technology I
- Conference Reception

Thursday, April 4

- Technical Papers Program
 - Imaging Technology II
 - Interactive Paper Session II
 - Digital Preservation II
 - Metadata and Access
- Behind-the-Scenes Tours (see p. 4)

Friday, April 5

- Keynote by Doug Munson, Chicago Albumen Works, and Carl Stephan, Joint POW/MIA Accounting Command (JPAC)
- Technical Papers Program
 - Standards and Guidelines
 - Quality Management
 - Digital Forensics and File Formats
 - Innovative Software, Projects, and Activities

**IS&T thanks the
US National Archives and Records Administration
(NARA)
for its generous support of
Archiving 2013.**

**We also thank
MAM-A for its support of the conference.**

CONFERENCE VENUE: WASHINGTON, DC

The dates of Archiving 2013 coincide with the annual Cherry Blossom Festival that takes place in Washington, DC. The great beauty of the Tidal Basin, circled by trees in full bloom and accented by monuments, provides a visual treat that delights locals and visitors each year.

The National Archives, home to the US Constitution and Declaration of Independence, hosts the conference. Located in downtown DC, directly across from the Archives Metro station, the venue offers an easy walk or commute to

many charming neighborhoods and top-rated restaurants.

As capital of the US, Washington is an impressive international city that embraces diverse cultures. Notable sites include the US Capitol, US Library of Congress, and White House. Many of the Smithsonian Museums, most of which offer free entry, are located within a few blocks of the Archives. Not to be neglected are the miles of walking and biking paths along the scenic Potomac River and C&O Canal.

Photo: iStock



CONFERENCE COMMITTEE

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Peter Burns, Burns Digital Imaging

Program Chair

Christoph Voges, consultant

Short Course Chair

Kathleen Murray, University of North Texas

Technical Program Committee

Kit Arrington, Library of Congress

Sebastian Barteleit, German Bundesarchiv

Priscilla Caplan, Florida Virtual Campus

Paul Conway, University of Michigan

Karl-Magnus Drake, National Archives of Sweden

Kathrine Hougaard, Danish National Archives

Felix Kong, US National Library of Medicine

Erik Landsberg, Museum of Modern Art

Megan Phillips, National Archives & Records Administration

Steven Puglia, Library of Congress

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Suzanne E. Grinnan, Executive Director

Diana Gonzalez, Conference Program Manager

Cover image: Frances Greene

ACCOMMODATIONS AND TRANSPORTATION

Accommodations

IS&T has secured a block of rooms at a special price at the

Hilton Alexandria Old Town
1767 King Street
Alexandria, VA 22314
703-837-0440 / 703-837-0454 (fax)

Located in historic Old Town Alexandria, the hotel is across the street from the King Street Metro (Yellow Line), a direct ride connection to Reagan National Airport and the National Archives.

Please visit the conference website for the online hotel reservation link. For phone reservations call 1-800-445-8667 and provide the conference code AAR and the group name IS&T Archiving Conference.

Hotel details

- \$159 (single/double) + 11.5% (tax) + \$1.00 (occupancy tax)
- Rate includes complimentary internet in sleeping room and is available April 1-8, 2013, 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
- **Reservation deadline: March 8, 2013.**

Local Transportation

The National Archives is located across the street from the Archives-Navy Memorial Metro station (Yellow Line). The ride from the conference hotel is approximately 25-minutes.

To plan a trip on Metro, visit:
www.wmata.com/rider_tools/

Air Travel

Washington, DC is served by three airports: Reagan National (DCA), Dulles International (IAD), and Baltimore-Washington International Airport (BWI).

To/from Hotel and DCA

There is a Metro stop right at the airport. Take Yellow Line (direction: Huntington) or a Blue Line (direction: Franconia/Springfield) two stops to King Street Metro station. Depending on time of day, the trip will cost approximately \$3 and take 7 minutes. By taxi, the hotel is about 15 minutes and \$15 from DCA.

To/from Hotel and BWI

From BWI there are several options to get to DC. Free shuttles from the airport terminal go to the BWI Marshall Rail Station where you can get a MARC (Monday – Friday) or Amtrak train to Union Station, which is served by the Red Line Metro (change to Yellow Line at Gallery Place). Amtrak fares are ~\$11; MARC Penn Line fares ~\$6 to Union Station. The ride is ~34 minutes. For more information visit www.amtrak.com/home and <http://mta.maryland.gov/marc-train>. Super Shuttle provides service to the hotel from BWI for \$47, one-way (www.supershuttle.com). Taxi fares are likely more than \$90.

To/from Hotel and IAD

Via Metro, purchase a ticket to the West Falls Church Metro station (\$10 one-way/\$18 round-trip) at the Washington Flyer Coach ticket counter (Arrivals Door #4). The trip to station (Orange Line) takes 20-30 minutes. Board train direction New Carrollton and switch to Blue Line (direction: Franconia/Springfield) at Rosslyn station. Super Shuttle provides service from IAD for \$35/one way (www.supershuttle.com). Taxi fares from IAD to the hotel run approximately \$75.

BEHIND-THE-SCENES TOURS

Thursday, April 4, 2013

Take advantage of one of these unique Tours arranged for you by the Archiving 2013 committee. See details at right.

Library of Congress

Preservation scientists and reformatting specialists in the Preservation Directorate at the Library of Congress present ongoing research addressing the preservation challenges of optical media and magnetic tape, as well as a collaborative project that developed a method to digitally image grooved discs and cylinders and to playback the image, thereby avoiding playback with a stylus.

Choose one of three tours at the National Gallery of Art (NGA)

Participants have the opportunity to choose between three NGA departments engaged in digital imaging and preservation: the studios for imaging works of art; the museum archives, which is developing a digital archival repository for born-digital and digitized materials; and the library image collections, which creates and manages digital content for public access.

Digital Imaging and Visual Services

Digital imaging staff offer a guided tour through their new facility including state-of-the-art image capture; image storage and digital asset management work flow; and the self-serve web image resource, NGA Images (images.nga.gov).

PLEASE NOTE:

You may not register for Archiving 2013 in person on site. You MUST pre-register for this event.

Special Note on Tours

Advance registration is required; space is limited and reserved on a first-come first-served basis. Tours run approximately 90 minutes to two hours and start around 4:00 PM.

Everyone who registers by the early registration deadline will receive more details on the tours, including directions on 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 on time. Transportation and other details will be provided on the tour registration form.

Gallery Archives

Museum archive's staff demonstrates and discusses the Gallery's developing archival system for jointly managing analog, digitized, and born digital content together with related strategies for ingest and management of a secure archival digital repository.

Library Image Collections

Library image collections staff share experiences with large digitization projects and management of digital image collections within a specialized library framework.



Photo: Elias Kreyenbuhl

SHORT COURSE PROGRAM: TUESDAY, APRIL 2ND

Please note that the morning Short Course program is followed by CURATECAMP. See details, page 7.

T1A: Adding Digital Forensics Tools to Your Workflow Using BitCurator

8:00 – 10:00 am (2 hours)

Instructors: Christopher (Cal) Lee and Kam Woods, University of North Carolina, Chapel Hill

Digital forensics tools and methods can support a variety of important archival tasks. There are two needs that are not addressed by software designed for the digital forensics industry: incorporation into the workflow of archives/library ingest and collection management environments, and provision of public access to the data. The BitCurator project is an effort to develop a system specifically for collecting professionals that incorporates the functionality of many open source digital forensics tools. We have developed the BitCurator environment, which is freely available and can be run directly in Linux or as a virtual machine on other platforms (Windows and Mac). This course covers the basic functionality of the BitCurator environment and several features that are currently under development.

Benefits

This course enables attendees to:

- Learn how to run the BitCurator environment in a virtual machine (using Virtual Box).
- Export file system metadata from a disk image (using fiwalk).
- Locate and identify personally identifying information within digital materials (using Bulk Extractor).
- Automate repetitive tasks (using Nautilus scripts).
- Recognize and understand the main data elements that are generated by many open source forensics tools (using DFXML).

- Generate summary reports of DFXML metadata that can be used to characterize the contents of disks (using BitCurator reporting tools).

Intended Audience: Professionals responsible for acquiring or transferring collections of digital materials, particularly those that are received on removable media.

Christopher (Cal) Lee is associate professor at the School of Information and Library Science at the University of North Carolina, Chapel Hill. He teaches graduate and continuing education courses in archival administration, records management, digital curation, and information technology for managing digital collections. His research focuses on curation of digital collections and stewardship of personal digital archives. Lee is PI for the BitCurator project and editor of I, Digital: Personal Collections in the Digital Era.

Kam Woods is a postdoctoral research associate in the School of Information and Library Science at the University of North Carolina at Chapel Hill. He is technical lead on the BitCurator project. Wood's research focuses on long-term preservation of born-digital materials. He is interested in approaches that combine technologies and expertise in archiving, computer science, and digital forensics to enable and maintain access to digital objects that are at risk due to obsolescence.

T2A: Scanner & Camera Imaging Performance Workshop

8:00 – 10:00 am (2 hours)

Instructors: Don Williams, Image Science Associates, and Peter D. Burns, Burns Digital Imaging

The workshop begins with a discussion of how to interpret customer imaging requirements. It

then introduces several principles that help our understanding of imaging performance in acquisition and conversion. The use and adaptation of several standards and institutional guidelines in museum or library environments are described. These include the Federal Agency Digitization Guideline Initiative (FADGI) and Metamorfoze. A workshop discussion of common challenges for imaging services and digital collections follows. In each case, the discussion focuses on the selection and development of test plans, performance measurements, acceptance criteria, tests targets and software. Suggestions and tools for corrective action for poor performance are 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 reformatting.
- Introduce imaging quality control procedures into their workflows.
- Develop test plans and apply corrective actions for ill-behaved performance.
- Use easy and non-disruptive ways to monitor image quality.

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

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



Photo: Elias Kreyenbuehl.

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).

Peter Burns is a consultant working in digital image evaluation, system monitoring, and image processing. He has experience in several areas for digital imaging; digital photography, mobile imaging, cultural heritage imaging, and imaging performance standards. A frequent speaker at imaging conferences, he is also a university lecturer and teaches short courses.

T3A: Web Archiving: Implementation Standards and Issues

8:00 – 10:00 am (2 hours)

Instructors: Mark Phillips, University of North Texas Libraries, and Abbie Grotke, Library of Congress

The Web is now a vital component for the distribution and dissemination of information to a wide range of consumers throughout the world. In many situations organizations have moved to a Web first publishing model, which requires institutions responsible for collecting and preserving this content to seek new tools and methods to select, acquire, preserve, and provision access to resources important to their users.

This course provides an introduction to the field of Web archiving, an overview of the role cultural heritage institutions play, and discusses the tools and services necessary to establish a Web archiving program.

SPECIAL EVENT: CURATECAMP

Digitized / Born Digital Together

Condensed CURATECAMP at Archiving 2013: An Unconference

1:15 – 5:30 pm / Facilitated by Megan Phillips, Kate Murray, and Mike Horsley, NARA

A CURATECAMP brings individuals together to discuss topics they define. For this special condensed version, the theme is Digitized / Born Digital Together. The theme was selected to take advantage of Archiving 2013's rich combination of experts—those working in imaging and digital curation within the cultural, academic, and industry sectors.

The “unconference” format of CURATECAMP encourages attendees to identify and discuss the issues they care about the most, leading to progress on solving real problems. Two key ideas are that participants define the agenda and that there are no spectators. Everyone who comes should plan on actively participating in and helping to lead discussions. For more information on CURATECAMP, how it works, and past topics visit <http://curatecamp.org/>.

Possible topics might include:

- Are there necessary differences in processes for managing born digital and digitized objects?
- Does one size fit all, or “I’m ok, you’re ok” with different traditions, processes, and systems?

- Can organizational cultures be formed around a single comprehensive vision for how physical, digital, and digitized materials can all be made accessible to the public in the most useful way?
- How can institutions get the most value from their resources when managing both types of material?
- How can we make all our processes more efficient and scalable?
- What are possible roles of crowdsourcing in extending our resources for both types of material?
- Could we develop tools for digital curation and let the crowd do some of the actual work using those tools?

Attendees are encouraged to start thinking now about topics related to this theme that they would like to propose for discussion. The options for rich discussions are endless!

Please note: Participation is limited to 75 people; advanced registration is required. There is no charge for this event if you register by the early-registration deadline. Although the event is open to all, priority will be given to conference attendees. There is no onsite registration for this event.

Benefits

This course enables the attendee to:

- Acquire an understanding of the Web archiving field.
- Learn about various Web archiving activities around the world.
- Communicate the importance of preserving the Web.
- Identify the components involved in

harvesting and serving archival Web content.

- Describe Web archive collection strategies.

Intended Audience: Anyone in cultural heritage institutions responsible for collecting the publishing output of an organization or institution. Anyone with the responsibility for

building research collections of electronic information.

Mark Phillips is assistant dean for Digital Libraries at the University of North Texas Libraries. He has been involved in Web archiving activities at the UNT Libraries for nearly a decade working on projects including the CyberCemetery and End of Term Web Archives.

Abbie Grotke is web archiving team leader in the Office of Strategic Initiatives at the Library of Congress.

T4A: Using JPEG 2000 for Archival and Production Masters

8:00 – 10:00 am (2 hours)

Instructor: Robert Buckley, University of Rochester/
New Market Imaging

The objective of this course is to enable attendees to understand JPEG 2000 well enough so that they can decide how it best fits with their requirements and can get the most out of it. Already in wide use as a production format, JPEG 2000 is increasingly being used as an archival format in both lossless and lossy (functionally lossless) forms. This course starts by giving attendees a firm grounding and practical knowledge in the basics of JPEG 2000 and the associated JP2 file format. The course makes ample use of demonstrations and case studies from cultural heritage institutions to illustrate the features of JPEG 2000 and the factors that most affect its performance for production or archival applications.

Benefits

This course enables the attendee to:

- List the key features of JPEG 2000.
- Understand the cost and user experience benefits of JPEG 2000.
- Understand how to relate JPEG 2000 features and options to their requirements.
- Understand why and how production and archival applications are using JPEG 2000.
- List the available JPEG 2000 tools.

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.

Robert Buckley is a senior 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. He has consulted with cultural heritage institutions, including four national libraries, on their use of JPEG 2000, designed several JPEG 2000 profiles, and taught courses on JPEG 2000. He was a member of the JPEG committee and an editor of the JPEG 2000 standard. He chairs the CIE Committee on Archival Color Imaging and is on the advisory board of the US Federal Agencies Digitization Guidelines Initiative.

T1B: Data Management Planning for the Cultural Heritage and Memory Sector

10:15 am – 12:15 pm (2 hours)

Instructors: Günter Waibel, Smithsonian Institution,
and Martin Donnelly, University of Edinburgh

This workshop, organized by the Digital Curation Centre (DCC) and the Smithsonian Institution (SI), explores drivers and requirements for data management planning in the cultural heritage/memory sector, with a view to positioning technical provision and infrastructure to meet these needs more closely.

The agenda includes perspective presentations from the Smithsonian, an overview of data management planning in academic research (in the US, UK and beyond), an overview of relevant software functionality (DMPTool, DMP Online, the SI Research Repository and Digital Asset Management System), and concludes with an interactive workshop session capturing requirements and opinions from attendees, namely "what do I need to do, and what do I want to do over and above this?"

SHORT COURSES / CURATECAMP AT-A-GLANCE

Descriptions for short courses begin on page 5.

8:00 – 10:00 T1A: Adding Digital Forensics Tools to Your Workflow . . .	10:15 – 12:15 T1B: Data Management Planning for the Cultural . . .	<p>1:15 – 5:30</p> <p>Digitized / Born Digital Together</p> <p>Condensed CURATECAMP</p> <p>“unconference”</p> <p>see page 7 for details</p>
8:00 – 10:00 T2A: Scanner & Camera Imaging Performance . . .	10:15 – 12:15 T2B: FADGI Still Imaging Guidelines: Matching . . .	
8:00 – 10:00 T3A: Web Archiving: Implementation Standards . . .	10:15 – 12:15 T3B: Personal Digital Archiving: How Institutions Can Help . . .	
8:00 – 10:00 T4A: Using JPEG 2000 for Archival and Production . . .	10:15 – 12:15 T4B: Storage Technologies for Archiving . . .	

Benefits

This course enables the attendee to:

- Learn about the state of data management plans and policies in the academic research world and how these relate to the cultural heritage/memory sector.
- Appreciate the opportunity to shape the future development of DMP and related tools and support services to meet cultural heritage/memory sector needs.

Intended Audience: This workshop is intended to be relevant to a wide audience, but will be particularly relevant to those with an interest in policymaking, grant recipients and applicants, IT support services and other cultural heritage professionals.

Günter Waibel is Director of the Digitization Program Office at the Smithsonian Institution, where he oversees policy and strategy for digitizing and managing Smithsonian assets and the implementation of the strategic plan “Creating a Digital Smithsonian.” He was program officer for RLG and OCLC Research and before that was digital media developer at the UC Berkeley Art Museum & Pacific Film Archive. Waibel has taught as adjunct faculty in the School of Information Studies at Syracuse University, New York,

and the School of Library and Information Science at The Catholic University of America, Washington DC.

Martin Donnelly is senior institutional support officer at the Digital Curation Centre, based at the University of Edinburgh, where he coordinates development of the DMP Online tool. His academic specialism is Cultural Heritage Computing. He has previously worked at Edinburgh College of Art and at the University of Glasgow where he coordinated the Honours module on Cyberculture.

T2B: FADGI Still Imaging Guidelines: Matching Needs and Implementation

10:15 am – 12:15 pm (2 hours)

Instructor: Stephen Puglia, Library of Congress

The FADGI Still Image Working Group’s Technical Guidelines for Digitizing Cultural Heritage Materials provides a framework for determining appropriate approaches to digitizing a wide variety of collection content, including books, manuscripts, still photographs, maps, etc. The Technical Guidelines describe metrics for measuring and monitoring the imaging performance of scanning equipment and related raster image quality

as well. This course covers the evaluation and selection of appropriate levels of information capture and imaging performance to meet institutional and collection needs; along with the tools and techniques for monitoring scanner performance and image quality of raster images being produced.

Benefits

This course enables the attendee to:

- Learn about the FADGI Technical Guidelines for Digitizing Cultural Heritage Materials.
- Understand the considerations influencing decisions for levels of information capture and imaging performance.
- Implement and follow the FADGI Technical Guidelines for digitization projects.

Intended Audience: Managers, librarians, imaging practitioners, and anyone involved with planning, implementing, and managing digitization in cultural heritage organizations. General experience with digitization is recommended.

Steven Puglia is a digital conversion services manager in the Office of Strategic Initiatives at the US Library of Congress. He provides technical expertise for a wide range of projects involving the digital conversion of collections. In April 2011, Puglia began coordinating the Still Image Working Group of the Federal Agencies Digitization Guidelines Initiative. Previously, from 1988-2011, he worked as a preservation and imaging specialist at the US National Archives & Records Administration.

T3B: Personal Digital Archiving: How Institutions Can Help the General Public

10:15 am – 12:15 pm (2 hours)

Instructor: Mike Ashenfelder, Library of Congress

This course presents an overview of the Library of Congress's experiences with digital archiving and how the Library adapted and scaled down those experiences—as well as

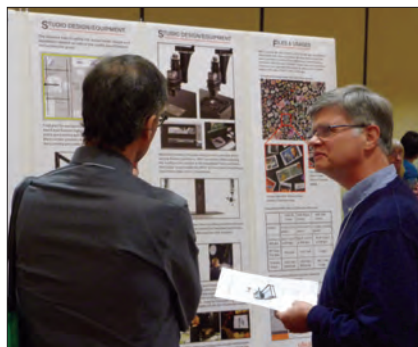


Photo: Diana Gonzalez

its best practices and lessons learned from over a decade of research—to apply to the general public. Concepts include organizing digital content, selecting what to preserve, assigning descriptions and identifiers to help find the content again, various options for backing up content, and migrating content to current storage media.

Benefits

This course enables the attendee to:

- Simplify complex digital preservation information for the average consumer.
- Understand the basic digital photo information all consumers should know.
- Anticipate digitization issues, such as with scanning and digitizing home movies.
- Recommend the four essential and simple digital archiving steps.
- Learn from the Library's communications efforts what is the most effective method.

Intended Audience: Managers, engineers, technicians, manufacturers, service providers and content custodians interested in sharing digital archiving advice with the general public. No technical expertise is necessary.

Mike Ashenfelder works in the digital-preservation division of the Library of Congress, the National Digital Information and Infrastructure Preservation Program. He writes about personal digital archiving, digital preservation leaders, and new developments in digital preservation. Ashenfelder also produces

public information videos and podcasts. He received his BA in music education from Berklee College of Music and masters in music history from San Francisco State University.

T4B: Storage Technologies for Archiving: Current State and Projected Innovations

10:15 am – 12:15 pm (2 hours)

Instructor: Barry 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. The characteristics to be studied include how each technology works and its inherent characteristics and vulnerabilities which result from how the technology works. The current technologies to be covered include magnetic tape, hard disc drives, flash memory, optical discs, and cloud storage. The projected technologies to be covered include memristors, ferro-electric RAM, nanotube RAM, Zero-capacitor RAM, Heat-Assisted Magnetic Recording (HAMR), holographic optical discs, multi-layer optical discs, permanent solid-state, and permanent optical tape.

Benefits

This course enables the attendee to:

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

Short Course Fees

If you register:	by March 3	after March 3
Member	\$75	\$95
Non-member	\$95	\$115
Student	\$35	\$45

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

Intended Audience: Anyone interested in knowing their options for storing digital data and how those options compare. This would include anyone responsible for making technology decisions in data storage. Assumed education level is a technical background and five years of experience, or a college degree in a technical area.

Barry M. Lunt is a full professor of Information Technology at BYU. He has taught for 25 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 has five US patents, 20 patents applied for, and has published more than 40 papers and two books. He has a BS in electronics and an MS in manufacturing and electronics, and a PhD in education.



Photo: Inge Angevaere (KB)

TECHNICAL PROGRAM

Wednesday April 3, 2013

9:00 - 10:00 AM

WELCOME AND KEYNOTE

Session Chairs: Peter Burns, Burns Digital Imaging, and Christoph Voges, consultant

A 21st Century Transformation: The Presidential Memorandum on Managing Government Records and Its Implications,

Paul Wester Jr., National Archives and Records Administration (USA)

10:00 - 11:00 AM

DIGITAL PRESERVATION I

Session Chair: Jonas Palm, National Archives of Sweden

Dream the Impossible Dream: Born Digital Stewardship,

Bradley J. Daigle, University of Virginia (USA)

The Role of Risk Analysis to Support Cost Models for Digital Preservation,

Diogo Proença and José Borbinha, INESC-ID Information Systems Group (Portugal), and Neil Grindley, JISC Digital Preservation and Records Management (UK)

Where the OAI Ends: Archival Principles and the Digital Repository,

Maygene Daniels, National Gallery of Art (USA)

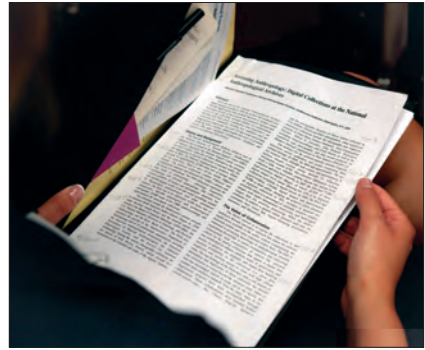
11:45 AM - 12:45 PM

ARCHIVING OF ART

Session Chair: Erik Landsberg, Museum of Modern Art

Design and Implementation of an Automated Workflow for Video Art Archiving,

Maria Esteva,¹ Karla Vega,¹ Summer Gunnels,¹ David Walling,¹ Bethany Scott,² and Keerthana Kumar¹; ¹University of Texas at Austin and ²Charlotte Mecklenburg Library (USA)



Photos: Inge Angevaere (KB)

Developing Open-Source Software for Art Conservators,

Min H. Kim, Holly Rushmeier, John French, and Irma Passeri, Yale University (USA)

Software Archaeology and the Preservation of Code-based Digital Art,

Francis T. Marchese, Pace University (USA)

2:00 - 3:00 PM

FILM AS STORAGE MEDIUM

Session Chair: Don Williams, Image Science Associates

Preservation of Digitally Originated Motion Images on Film: An Integrated Systems Approach,

Cindy A. Fitzgerald and John C. Rutter, Eastman Kodak Company (USA)

Monolith: Lessons Learned on the Way to the Market,

Peter Fornaro and Andreas Wassmer, University of Basel (Switzerland)

Joint Equalization/Demodulation for Digital Data Storage on Photographic Film,

Christoph Voges, consultant, and Tim Fingscheidt, Technische Universität Braunschweig (Germany)

3:00 - 3:45 PM

INTERACTIVE PAPERS I

Session Chair: Larry Telford, FamilySearch International

See list of papers (page 13).

INTERACTIVE PAPERS

Each of the following papers will be presented during one of the two Interactive Paper Sessions. Refer to the final program for exact day.

A Software System for Semi-Automatic Processing of Historical Handwritten Arabic Documents, Werner Panke,¹ Volker Märgner,¹ Daniel Fecker,¹ Abedelkadir Asi,² Ofer Biller,² Jihad El-Sana,² and Tim Fingscheidt¹; ¹Technische Universität Braunschweig (Germany) and ²Ben-Gurion University of the Negev (Israel)

Digital Asset Management: Beyond Images, Beyond Art, Shyam Oberoi, Metropolitan Museum of Art (USA)

Digitizing Rare Maritime Collections, Constantia Constantinou, State University of New York (USA)

The International e-Depot to Guarantee Permanent Access to Scholarly Publications, Marcel Ras, National Library of the Netherlands (the Netherlands)

Toward Permanence in Digital Data Storage, Barry M. Lunt, Matthew R. Linford, and Robert C. Davis, Brigham Young University (USA)

Meeting International Standards and Off-Line Archiving through the Use of Optical Discs, Masatoshi Inui, JVC Advanced Media USA Inc. (USA)

An OCR Concept for Historic Prints, Ursina Caluori and Klaus Simon, Swiss Federal Laboratories for Materials Science and Technology (Switzerland)

Finger Detection for Quality Assurance of Digitized Image Collections, Roman Graf and Ross King, Austrian Institute of Technology (Austria)

From Collections Storage to DAMS and Beyond: Digitizing Language, Stephanie Christensen, Smithsonian Institution (USA)

Revs Mass Digitization: A Framework for Establishing, Measuring, and Sustaining Quality, Matthew Pearson, Stanford University, and Eric Philcox, Pixel Acuity LCC (USA)

Preservation is no Preservation without Proper Education, Anssi Jääskeläinen, Mikkeli University of Applied Sciences (Finland)

Compression Considerations for Audiovisual Digital Preservation, Erik Piil, Anthology Film Archives, and Caitlin Hammer, Corporation for Public Broadcasting (USA)

Mobilizing 3D Virtual Artifacts Exhibition System of National Palace Museum, PeiJeng Kuo, Wei-Hsiang Su, Yi-Ting Wang, Yi-Ning Huang, and Wei-Chen Chu, National Chengchi University (Taiwan)

Towards a Large Access-Oriented Digital Archive, Quyen L. Nguyen, National Archives and Records Administration (USA)

Improving Sustainability of Software: Lessons Learned from Profiles in Science, Marie E. Gallagher, US National Library of Medicine (USA)

To Harmonize Quality and Quantity, Heidi Rosen and Torsten Johansson, Kungliga Biblioteket (Sweden)

Supporting Data Management for 3D and Raster Data: A Case Study, Gareth Beale, Richard Boardman, Graeme Earl, Steve Hitchcock, and Hembo Pagi, University of Southampton (UK)

New Strategies—Better Quality of Life for Everyone, Markku Nenonen, Mikkeli University of Applied Sciences (Finland)

Preservation Still Image Defects: A New Resource, Matthew Pearson, Stanford University Libraries (USA)

Intelligent Storage Systems for Digital Preservation, N. Thomas Creighton, FamilySearch (USA)

Using a Single Archive Audio File Format for Archive, Discovery and Display, John Sarnowski, The ResCarta Foundation (USA)

Cross Media Preservation Planning, Rod Butler, Mick Newnham, Greg Moss, and Ian Gilmour, National Film and Sound Archive of Australia (Australia)

Accumulating Metadata from Tributary Workflows for more Robust Archival Records, Aaron Collie, Lucas Mak, and Shawn Nicholson, Michigan State University (USA)

Reification: Statements about Statements within RDF, Vinod Chachra and Heather Myers, VTLIS Inc. (USA)

3:50 - 5:30 PM

IMAGING TECHNOLOGY I

Session Chair: Peter Burns, Burns Digital Imaging

Image Modality and Visual Characteristics for Biomedical Image Archival, Sameer Antani, Daekeun You, Matthew Simpson, Mahmudur Rahman, Dina Demner-Fushman, and George Thoma, US National Library of Medicine (USA)

Page-Image Error in Large-Scale Digitization: Research Findings on Cause and Effect, Paul Conway, University of Michigan (USA)

Computer Assisted Image Analysis for Objective Determination of Scanning Resolution for Photographic Collections—An Automated Approach, Lei He, Phil Michel, and Steven Puglia, Library of Congress; and Don Williams, Image Science Associates (USA)

Benchmarking Art Image Interchange Cycles: Experimental Results, Susan Farnand, Rochester Institute of Technology, and Franziska Frey, Harvard College Library (USA)

Quality Assurance Methods for Online Image Representations, William Scott Geffert, Metropolitan Museum of Art (USA)

5:30 - 7:30 PM

CONFERENCE RECEPTION

Participate in the Archiving 2013 Exhibition

A tabletop exhibition featuring digital archiving related products and services runs during the three days of the conference.

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

Thursday April 4, 2013

9:00 - 10:30 AM

IMAGING TECHNOLOGY II

Session Chair: Christoph Voges, consultant

Final Report of the CIE Technical Committee on Archival Colour Imaging, Robert Buckley, University of Rochester and NewMarket Imaging, and Steven Puglia, Library of Congress (USA)

Comparative Study of JPEG 2000 Compression and Format Configuration on Image Quality, Lei He and Steven Puglia, Library of Congress (USA)

Proposed Specifications for Digital Master Image and Shelf Copy Print Facsimile Production Processes, Jeanette Adams, Library of Congress (USA)

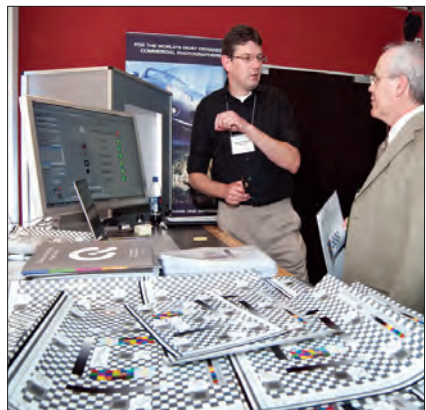
Image Stitching: Exploring Practices, Software, and Performance, Don Williams, Image Science Associates, and Peter D. Burns, Burns Digital Imaging (USA)

10:30 - 11:15 AM

INTERACTIVE PAPERS II

Session Chair: Kari R. Smith, Massachusetts Institute of Technology

See list of papers (page 13).



Photos: Inge Angevaere (KB)

Photo: Diana Gonzalez.



US Archivist David Ferrero giving a keynote at Archiving 2011 in Salt Lake City, Utah.

11:20 AM - 12:40 PM

DIGITAL PRESERVATION II

Session Chair: Kit Arrington, Library of Congress

Scalable Preservation Decisions: A Controlled Case Study, *Christoph Becker and Hannes Kulovits, Vienna University of Technology (Austria); and Bjarne Andersen, State and University Library (Denmark)*

Metamorfoze—the Dutch National Programme for the Preservation of Paper Heritage in Transition for Prioritizing Collections for Digital Archiving, *Marg van der Burgh, Koninklijke Bibliotheek (the Netherlands)*

Adoption of Infrastructure-as-a-Service at the National Library of New Zealand, *Cynthia Wu and Peter McKinney, National Library of New Zealand (NZ)*

Focus on the Future: Creating Born-Digital Standards for Large-Format Photography, *Anne Mason, National Park Service, and Stephen Schafer, Shaf Photo Studios (USA)*

1:55 - 3:15 PM

METADATA AND ACCESS

Session Chair: Paul Conway, University of Michigan

Improving Access to Web Archives through Innovative Analysis of PDF Content, *Mark E. Phillips and Kathleen Murray, University of North Texas (USA)*

KEYNOTE TALKS

A 21st Century Transformation: the Presidential Memorandum on Managing Government Records and Its Implications

Paul M. Wester, Jr., chief records officer, NARA

This talk focuses on the directive issued in August 2012 by NARA and the Office of Management and Budget that aims to reform records management practices throughout the US Federal Government. The directive details an ambitious set of goals to realize the records management reform needed to support the Administration's Open Government agenda. Wester describes these goals, how NARA is working to achieve them, and the broader implications of this work for the archival and information management professions.

The Identification of US POWs and MIAs from the Korean War via the Recovery and Digitization of Deteriorated Acetate X-rays

Carl N. Stephan¹; Doug Munson²; John E. Byrd¹, and Thomas D. Holland¹; ¹Joint POW/MIA Accounting Command Central Identification Laboratory (JPAC-CIL) and ²Chicago Albumen Works (CAW) (USA)

Recently JPAC-CIL developed the ability to use induction chest radiographs to identify the skeletal remains of unaccounted-for US soldiers from the Korean War. Most of these radiographs are >60 years old; many had deteriorated as a consequence of vinegar syndrome and prolonged storage. In 2010, JPAC-CIL and CAW began a collaboration to rejuvenate these deteriorated radiographs to augment and maximize the identification effort. This talk describes the recovery techniques used to process these extremely challenging films, while it also tells a unique story of photo conservation that carries immense community value.

Use of Descriptive Metadata as a Knowledgebase for Analyzing Data in Large Textual Collections, *Dharitri Misra and George R. Thoma, National Library of Medicine (USA)*

Descriptive Metadata for Scrapbooks: Interdepartmental Collaboration to Support Efficiency and Discovery, *David Gwynn, Anna Craft, and Kathelene McCarty Smith, University of North Carolina at Greensboro (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)*

4:00 - 5:30 PM

BEHIND THE SCENES TOURS

See page 4

Friday April 5, 2013

9:00 - 10:00 AM

KEYNOTE

Session Chair: Peter Burns, Burns Digital Imaging

The Identification of US POWs and MIAs from the Korean War via the Recovery and Digitization of Deteriorated Acetate X-rays, *Carl N. Stephan¹, Doug Munson², John E. Byrd¹, and Thomas D. Holland¹; ¹Joint POW/MIA Accounting Command and ²Chicago Albumen Works (USA)*

10:00 - 11:00 AM

STANDARDS AND GUIDELINES

Session Chair: Scott Geffert, Metropolitan Museum of Art

Guidelines for Legacy Repository Migration, *Miguel Ferreira and Luis Faria, Keep Solutions; and José Carlos Ramalho, University of Minho (Portugal)*

Elaborating on the NDSA Levels of Preservation, *Megan Phillips, National Archives and Records Administration; Jefferson Bailey, Metropolitan New York Library Council (METRO); Andrea Goethals, Harvard Library; and Trevor Owens, Library of Congress (USA)*

Digitization Standards at the US National Archives, *Kate Murray, Martin Jacobson, and Jeffrey Reed, US National Archives and Records Administration (USA)*

11:30 AM - 12:10 PM

QUALITY MANAGEMENT

Session Chair: Megan Phillips, National Archives & Records Administration

The Digital Documents Quality Control Workflow at the BnF (Operation, Issue, Improvement), *Ahmed Ben Salah and Laurent Duploux, Bibliothèque Nationale de France (France)*

An Open Source Infrastructure for Quality Assurance and Preservation of a Large Digital Book Collection, *Sven Schlarb, Austrian National Library (Austria)*

1:30 - 2:50 PM

DIGITAL FORENSICS AND FILE FORMATS

Session Chair: Steven Puglia, Library of Congress

Digital Forensics as a Retrospective Science: Towards a Concept of Parametric Curation, Automated Analysis and Visualization of Disk Images and Filesystems for Preservation, *Kam Woods, Christopher Lee, and Sunitha Misra, University of North Carolina at Chapel Hill (USA)*
Curation of Earthquake Engineering Research Data, *Stanislav Pejaa, Network for Earthquake Engineering Simulation (USA)*
Collaborative Preservation Efforts of CAD/BIM Files, *Aliza Allen Leventhal, Simmons College and Cambridge Historic*

Commission, and Tawny Ryan Nelb, Nelb Archival Consulting, Inc., (USA)

3:20 - 4:40 PM

INNOVATIVE SOFTWARE, PROJECTS, AND ACTIVITIES

Session Chair: David Walls,
US Government Printing Office

MapArt Viewer: A Layered Solution for Viewing Scientific Imagery,

Matthew Carroll and Reed Tomlinson, MapArt Systems, LLC, and Melvin Wachowiak and E. Keats Webb, Smithsonian Institution—Museum Conservation Institute (USA)

Decentralized Hosting and Preservation of

Open Data, *Samuel Goebert,^{1,2} Bettina Harriehausen-Mühlbauer,¹ Christoph Wentzel,¹ and Steven Furnell²; ¹University of Applied Sciences Darmstadt (Germany) and ²University of Plymouth (UK)*

Repository Development at the Library of

Congress, *David Brunton and Kate Zwaard, Library of Congress (USA)*



Photos: Inge Angevaere (K8).

Open Source for Policy, Costs and Sustainability,

Osmo Palonen and Mikko Lampi, Mikkeli University of Applied Sciences (Finland)

4:40 - 4:45 PM

CLOSING REMARKS

Peter Burns, Burns Digital Imaging, and Christoph Voges, consultant

IMPORTANT DATES AND REMINDERS

There is no onsite registration for this event. We cannot process payments within the National Archives building. Please remember to pre-register!

Early registration deadline: March 3, 2013

Hotel reservation deadline: March 8, 2013

CURATECAMP Open to all; priority given to conference attendees who register by March 3rd. After that, open on first-come/first-served basis. Registration is complimentary until March 3, 2013; \$35 fee after that date.

Group Reg. Rates Available Contact archiving@imaging.org for details.

ARCHIVING 2013 CONFERENCE REGISTRATION

Name _____
 Title/Position _____
 Company _____
 Street Address _____
 City _____ State/Province _____
 Country _____ Postal Code _____
 Telephone _____ Fax _____ Email _____

Not a member? Join today and calculate all fees based on member rates.

Membership expires 12/31/13; for students, 9/30/13. Fees charged in US dollars.

___ \$95 US address ___ \$105 overseas address ___ \$25 Student Total \$ _____

Select one complimentary online journal: J.Imaging Sci & Tech J.Electronic Imaging

Return this form with signed credit card authorization to registration@imaging.org or +1-703-642-9094 (fax) or go to www.imaging.org/ist/conferences/archiving to register online.

Conference registration includes conference proceedings, admission to technical sessions, coffee breaks, the conference reception, and a Behind-the-Scenes Tour. Separate registration required for short courses and CURATECAMP.

Conference Registration*	until March 3	after March 3	TOTAL
<input type="checkbox"/> Check here if you are a speaker			
___ IS&T Member / Non-member	\$475 / \$525	\$525 / \$575	\$ _____
___ Student Member / Non-member	\$125 / \$150	\$150 / \$175	\$ _____
___ One-day (select day below)	\$265	\$290	\$ _____
<input type="checkbox"/> Wed. <input type="checkbox"/> Thurs. <input type="checkbox"/> Fri.			

Short Course Registration (be sure to multiply number of classes by per course fee and place on total line)

___ Member / Non-member (per class)	\$75 / \$95	\$95 / \$115	\$ _____
___ Student (per class)	\$35	\$45	\$ _____
Check up to two that apply:	<input type="checkbox"/> T1A <input type="checkbox"/> T2A <input type="checkbox"/> T3A <input type="checkbox"/> T4A	<input type="checkbox"/> T1B <input type="checkbox"/> T2B <input type="checkbox"/> T3B	<input type="checkbox"/> T4B

CURATECAMP

NOTE: priority is given to those who register for the full conference by March 3 on a first-come basis. Those who register only for CURATECAMP by March 3 will be put on a waiting list until March 4. After March 4, all space is first-come/first-served.

___ Member/Non-member (per class) \$0/\$0 \$35/\$35 \$ _____

Other

___ Extra Archiving 2013 Proceedings (special advance purchase/on-site rate)	\$85	\$ _____
___ Extra Conference Reception Ticket (guest name: _____)	\$50	\$ _____
___ Wire Transfer Fee (Contact registration@imaging.org for wire transfer info.)	\$25	\$ _____

REGISTRATION TOTAL \$ _____

Payment Method: AmEx MasterCard VISA Diner's Check
 Card#: _____ Exp. Date: _____
 Name as it appears on card: _____
 Authorization Signature: _____

Please note: To cover bank charges and processing fees, there is a cancellation fee of \$75 until April 1, 2013. After that date, the cancellation fee is 50% of the total plus \$75.

No refunds will be given after May 3, 2013. All requests for refund must be made in writing.

*Group rates available. Contact IS&T for details.