



SPRING FORUM 2005

WESTIN HORTON PLAZA
SAN DIEGO, CA

APRIL 13–15, 2005

Washington, D.C.

Printed by Balmar, Inc.

Copyright © 2005 by the Digital Library Federation

Some rights reserved.

The Digital Library Federation
Council on Library and Information Resources
1755 Massachusetts Avenue, NW, Suite 500
Washington, DC 20036
<http://www.diglib.org>

It has been ten years since the founders of the Digital Library Federation signed a charter formalizing their commitment to leverage their collective strengths against the challenges faced by one and all libraries in the digital age. The forums—began in summer 1999—are an expression of this commitment to work collaboratively and congenially for the betterment of the entire membership.

CONTENTS

Acknowledgments.....4

Site Map.....5

Schedule.....7

Program and Abstracts.....11

Biographies.....33

Appendix A: What is the DLF?.....50

Appendix B: Recent Publications.....53

Appendix C: DLF-Announce Listserv.....56

ACKNOWLEDGMENTS

DLF Forum Fellowships for Librarians New To the Profession

The Digital Library Federation would like to extend its congratulations to the following for winning DLF Forum Fellowships:

- John Chapman, Metadata Librarian,
University of Minnesota
 - Keith Jenkins, Metadata Librarian, *Cornell University*
 - Tito Sierra, Digital Technologies Development Librarian,
North Carolina State University
 - Katherine Skinner, Scholarly Communications Analyst,
Emory University
 - Yuan Yuan Zeng, Librarian for East Asian Studies,
Johns Hopkins University
-

DLF Fellowship Selection and Program Committees

The DLF would also like to extend our heartfelt thanks to the DLF Spring Forum 2005 Program Committee and Fellowship Selection Committee for all their hard work. They are as follows:

- Denise Troll Covey, *Carnegie Mellon University*
- Martin Halbert, *Emory University*
- Ann Lally, *University of Washington*
- David Reynolds, *Johns Hopkins University*
- David Seaman, *The Digital Library Federation*
- Erin Stalberg, *University of Virginia*
- Jewel Ward, *University of Southern California*

SITE MAP

Fig. 1. Site Map of the Westin Horton Hotel



Errata Sheet for Print Edition of the Spring 2005 DLF Forum

[All changes have been made in the various online versions of the program]

Change in location:

DAY THREE: FRIDAY, APRIL 15: POST-CONFERENCE

1:00pm—6:00pm DLF OAI Best Practices and IMLS Project Teams Joint Meeting—by Invitation Only.

This meeting has been moved from the Library, Lobby Level, to the **Plaza Room, Second Level.**

Updated session description:

9:00am—10:30am Session 12: DIGITAL LIBRARY GRID INITIATIVES. (California Ballroom B, Second Level)

MacKenzie Smith, MIT, Moderator
Mark Conrad, NARA
Chris Frymann, UC San Diego
Ray Larson, UC Berkeley SIMS
Reagan Moore, San Diego Supercomputer Center
Richard Rodgers, MIT Libraries
Rob Sanderson, University of Liverpool

The panel will describe several important projects which are working on applications of the computational grid (<http://www.globus.org/>) and the data grid (<http://www.sdsc.edu/srb/>) to the digital library and archives domain. Three presentations will review current projects and discuss their relevance to the future of digital library developments. The three presentations will include:

1. DSpace digital library and data grid integration
2. NARA research prototype persistent archive based on data grids, and
3. Digital Library grid initiative.

Each of these projects is looking at some aspect of digital library work, either in the discovery process (e.g., Cheshire) or the digital library arena (e.g., DSpace) or the digital archives arena (e.g., the persistent archive prototype), and all are working with SRB and related grid tools to accomplish this. By including this range of grid-based projects the panel will outline a roadmap for how grid technology might affect digital library work over the next five to ten years.

Updated biographies:

Michelle Dalmau is the Interface and Usability Specialist for the Indiana University Digital Library Program, where she conducts iterative user studies and design. Her research interests include the integration of complex metadata structures into the browse and search functionality of online collections as well as pedagogic use of digital image resources. The many projects Michelle has contributed to include Film Literature Index (<http://www.dlib.indiana.edu/reference/fli/>), Charles W. Cushman Photograph Collection (<http://www.dlib.indiana.edu/collections/cushman/>), and Letopis' Zhurnal'nykh Statei (<http://www.dlib.indiana.edu/reference/letopis/>). Her undergraduate background is in English and Art History, and she recently completed dual Masters degrees in library and information science at Indiana University.

Chris Frymann is an IT Division Head and works in Geisel Library at UCSD.

SCHEDULE AT A GLANCE

PRECONFERENCE: TUESDAY, APRIL 12, 2005

9:00AM–5:00PM ***METS Editorial Board Meeting—by Invitation Only*** (Library, Lobby Level)

9:00AM–5:00PM ***The California Digital Library (CDL) American West Project Meeting—by Invitation Only*** (Coronado, Third Level)

DAY ONE: WEDNESDAY, APRIL 13, 2005

10:00AM–12:30PM ***METS Editorial Board Controlled Vocabulary Meeting—by Invitation Only*** (Plaza Room B, Second Level)

10:00AM–12:00PM ***The Digital Library Federation (DLF) OAI Focus Group Meeting—by Invitation Only*** (Plaza Room C, Second Level)

12:00PM–1:00PM ***Registration*** (Second Level, Top of Stairs)

1:00PM–2:10PM ***Keynote Address: “Technology and the Professorate.”*** Edward Ayers, Dean, College of Arts and Sciences, University of Virginia (California Ballrooms A and B, Second Level)

2:10PM–2:30PM ***Break*** (California Foyer, Second Level)

2:30PM–4:00PM ***Session 1: METS Profiles*** (California Ballroom A, Second Level)

2:30PM–4:00PM ***Session 2: Repositories and Services*** (California Ballroom B, Second Level)

- 4:00PM–4:30PM** ***Break*** (California Foyer, Second Level)
- 4:30PM–6:00PM** ***Session 3: Integrating Digital Libraries***
(California Ballroom A, Second Level)
- 4:30PM–6:00PM** ***Session 4: Faculty-Library Collaborations in Building Digital Collections***
(California Ballroom B, Second Level)
- 7:00PM–10:00PM** ***Reception*** (Garden Pavilion and Terrace, Fourth Level)

DAY TWO: THURSDAY, APRIL 14, 2005

- 8:00AM–9:00AM** ***Breakfast*** (Garden Pavilion, Fourth Level)
- 9:00AM–10:30AM** ***Session 5: Digital Libraries, Digital Commons, and the Digital Library of the Commons***
(California Ballroom A, Second Level)
- 9:00AM–10:30AM** ***Session 6: Fasten Your Seatbelts: We Are Approaching a Period of Turbulence . . .***
(California Ballroom B, Second Level)
- 10:30AM–11:00AM** ***Break*** (California Foyer, Second Level)
- 11:00AM–12:30PM** ***Session 7: New User Services***
(California Ballroom A, Second Level)
- 11:00AM–12:30PM** ***Session 8: Collaborative Services***
(California Ballroom B, Second Level)
- 12:30PM–2:30PM** ***Break for Lunch*** (Individual Choice)

- 2:30PM–4:00PM** ***Session 9: Advances in Shareable Metadata and Web Services***
(California Ballroom A, Second Level)
- 2:30PM–4:00PM** ***Session 10: LOCKSS and the Humanities***
(California Ballroom B, Second Level)
- 4:00PM–4:30PM** ***Break*** (California Foyer, Second Level)
- 4:30PM–6:00PM** ***Birds of a Feather (BOF) Sessions:***
1. *Digital Library Education* (Coronado, Third Level)
 2. *Preservation Metadata* (Harbor A, Third Level)
 3. *OAI Best Practices* (Harbor B, Third Level)
 4. *Digital Imaging* (Balboa, Third Level)

DAY THREE: FRIDAY, APRIL 15, 2005

- 8:00AM–9:00AM** ***Breakfast*** (Garden Pavilion, Fourth Level)
- 9:00AM–10:30AM** ***Session 11: The National Digital Information Infrastructure Preservation Program (NDIIPP): DLF Institutional Participation***
(California Ballroom A, Second Level)
- 9:00AM–10:30AM** ***Session 12: Digital Library Grid Initiatives***
(California Ballroom B, Second Level)
- 10:30AM–11:00AM** ***Break*** (California Foyer, Second Level)
- 11:00AM–12:30PM** ***Session 13: New Provider Services***
(California Ballroom A, Second Level)
- 11:00AM–12:30PM** ***Session 14: New Challenges in Digital Preservation*** (California Ballroom B, Second Level)

POST-CONFERENCE: FRIDAY, APRIL 15, 2005

12:30PM–5:30PM *DLF Developers' Forum—by Invitation Only;*
**“Linking Public Search Engines to Library
Content: A Considering of Approaches.”**
(Santa Fe Room, Second Level)

1:00PM–6:00PM *DLF OAI Best Practices and IMLS Project Teams
Joint Meeting—by Invitation Only*
(Library, Lobby Level)

FULL PROGRAM WITH ABSTRACTS

PRECONFERENCE: TUESDAY, APRIL 12, 2005

9:00AM–5:00PM ***METS Editorial Board Meeting—by Invitation Only*** (Library, Lobby Level)

9:00AM–5:00PM ***The California Digital Library (CDL) American West Project Meeting—by Invitation Only*** (Coronado, Third Level)

DAY ONE: WEDNESDAY, APRIL 13, 2005

10:00AM–12:30PM ***METS Editorial Board Controlled Vocabulary Meeting—by Invitation Only*** (Plaza Room B, Second Level)

10:00AM–12:00PM ***The Digital Library Federation (DLF) OAI Focus Group Meeting—by Invitation Only*** (Plaza Room C, Second Level)

12:00PM–1:00PM ***Registration*** (Second Level, Top of Stairs)

1:00PM–2:10PM ***Keynote Address: “Technology and the Professorate.”*** Edward Ayers, Dean, College of Arts and Sciences, University of Virginia (California Ballrooms A and B, Second Level)

2:10PM–2:30PM ***Break*** (California Foyer, Second Level)

2:30PM–4:00PM **Session 1: METS Profiles** (California Ballroom A, Second Level)

“Making METS Profiles Machine-Actionable to Support Validation and Facilitate Interoperability.”

Corey Keith, Library of Congress

Until now METS profiles have existed in prosaic form guiding the user in creating conforming METS documents. The METS Profile schema serves as a standardized container for this information but due to its form it must be interpreted by a human to derive any benefit. The Library of Congress has created an XML-based, machine-readable scheme to express profile requirements. This scheme goes beyond the grammar-based METS schema to express structural requirements, relationships between elements, and profile-required metadata elements. Expressing requirements in this form enables the development of generic profile-aware tools. The Library of Congress has developed a prototype of an obvious example of such a tool: a METS profile validation tool. Profile validation can be reused within the institution, but more importantly it facilitates interoperable exchange of METS documents between institutions by enforcing the profile contract. Senders can validate their METS documents before dissemination and receivers can validate before ingestion and be sure of the conformance to the profile specification. The presentation will also discuss other uses for machine-actionable METS profiles including input/editing tools and dissemination systems.

“Creating METS Profiles Using METS and MODS.”

Morgan Cundiff, Library of Congress

The Library of Congress has created a set of METS Profiles for various document types including musical scores and parts, sheet music, phonodiscs, compact discs, photographs, print materials, recorded events, and bibliographic records. The profiles were created for use with the Library's digital library application called "I Hear America Singing" (<http://www.loc.gov/rr/perform/ihas/>), but are intended to be generally useful to the digital library community. It is further intended that the profiles be used as a basis for interoperation between applications and digital archives. The profiles make use of METS and MODS together to express both the logical hierarchy and the physical hierarchy of given object types. Further, the profiles are also intended to serve as a first step toward the creation of profile-aware software tools.

2:30PM–4:00PM **Session 2: Repositories and Services**
(California Ballroom B, Second Level)

“A Technology Analysis of Repositories and Services.”

Sayed Choudhury and Tim DiLauro,
Johns Hopkins University

The concept of the institutional repository has gained traction within the digital library community. While this idea provides a useful description that may facilitate institutional adoption, it may also oversimplify the complete picture associated with digital library architecture. Institutions may now be finding that there will be multiple repositories and applications in the same environment. At Johns Hopkins University, we are promoting the idea that applications should access repositories through an abstract, repository agnostic layer, rather than through custom application to repository integrations. With funding from the Mellon Foundation, Johns Hopkins will evaluate repository software and a range of services. The result of this evaluation will be a set of best practices, recommendations, and functional requirements for repositories and applications. This project reflects our belief that content should reside in multiple repositories external to applications, so that the same content can be used by several systems and support multiple services. This concept will be tested with content that is moved through repositories into applications as defined against a set of use cases that reflect various services. Specific examples we are considering include digital preservation (e.g., Archive Ingest Handling Test), e-learning (e.g., Sakai), and e-publishing (e.g., Project Muse).

“UVA Library Repository Interface and Tool Evaluation.”

Leslie Johnston, Director,
Digital Access Services, University of Virginia Library

In fall 2004, the University of Virginia Library launched its Central Digital Repository for its first experimental year. The Repository includes a digital image collection, electronic text collection, and EAD Finding Aids for the UVa Library's Special Collections. The Repository itself was built using Fedora, a digital library management architecture jointly developed by the University of Virginia and Cornell University. The interface was built using Cocoon, XPAT, JavaScript, and Web Standards-compliant XHTML and CSS.

Session 2 (continued)

The interface was designed to accommodate discovery and delivery of objects across collections and formats—images, texts, finding aids—and provide access to tools that support use of the collections in research and instruction. This includes an Image Viewer for on-the-fly manipulation of images, and a Digital Object Collector Tool for the creation of personal collection portfolios, slide shows, and image reserve Web sites. The interface and tools will be briefly demonstrated. The development of the interface and tools required an extensive internal design review, where every element on every screen was scrutinized for consistency and proper functionality in a number of browsers for Wintel PCs and Macintosh. The interface is currently undergoing task-based usability testing with library staff and faculty. A group of six faculty members are also currently testing both the interface and the tools in the teaching of six courses, ranging from undergraduate courses to graduate seminars to design studios. Testing procedures and examples of test results and changes made to the interface and tools will be presented.

“The Bibliotheca Alexandrina Digital Library: Services and Repository-Building.”

Noha Adly, ICT and ISIS Director,
Bibliotheca Alexandrina

This presentation will begin with a brief overview of the projects Bibliotheca Alexandrina is undertaking towards building a digital library, including the Internet Archive, the Million Book project, and the digital preservation of the modern history of Egypt. A special focus will be given to one of the new projects, which is the building of a Digital Assets Repository (DAR) system to create and maintain the digital library collections. The system introduces a data model capable of associating the metadata of different types of resources with the content, such that searching and retrieval can be done efficiently. Further, it automates the digitization process as well as the preservation and archiving of the digitized output. The goal of this project is to build a digital resources repository to support the creation, use, and preservation of digital resources as well as the development of management tools. These tools help the library to preserve, manage, and share digital assets. The system is based on evolving standards for easy integration with Web-based interoperable digital libraries.

4:00PM–4:30PM **Break** (California Foyer, Second Level)

4:30PM–6:00PM ***Session 3: Integrating Digital Libraries***
(California Ballroom A, Second Level)

“The DLF Aquifer Initiative: A Progress Report.”

Katherine Kott, Aquifer Director,
The Digital Library Federation

The DLF Aquifer initiative emerged as the re-awakened strategic direction of the Distributed Open Digital Library (DODL) initiative of the Digital Library Federation in May 2003. According to the original 1995 Digital Library Federation mission statement, the DLF was established to “bring together—from across the nation and beyond—digitized materials that will be made accessible to students, scholars, and citizens everywhere, and that document the building and dynamics of America's heritage and cultures.” DLF has progressed towards this strategic goal since its inception through support, coordination and participation in the development of prototypes, proofs of concept and test-beds that will form the foundation of DLF Aquifer. This project briefing will review the status of the DLF initiatives upon which DLF Aquifer is being built and outline the project plan for the coming year. The update will focus on organizing for collaboration, leveraging existing collections and technical developments and defining the DLF Aquifer problem space.

“Integrating Digital Libraries: Teaching, Learning, and Publishing in the DART Project.”

Gordon Dahlquist, Brian Hoffman, and David Millman,
Columbia University

The Digital Anthropology Resources for Teaching (DART) project integrates the content acquisition and cataloging initiatives of a federated digital repository with the development of scholarly publications and the creation of digital tools to facilitate classroom teaching, a union between the traditional perspectives of the library and the scholarly publisher. While the focus of the existing repository is in the field of anthropology, the DART model presents a practical methodology to combine repository and publication that is both exportable and discipline-neutral. The scope of the digital repository is established by area librarians and scholars, who work with editorial staff to curate content selection, describe hierarchies, rights, provenance, and other metadata, and utilize harvesting protocols such as OAI-PMH to acquire targeted records and resources.

Session 3 (continued)

The project then employs postdoctoral teaching Fellows, working within the EPIC publishing environment with editorial and technical staff, to apply teaching-related metadata, annotation, text, etc. to repository material to create self-contained digital teaching tools such as online syllabi, complex learning objects, and curriculum models. Because these teaching tools emerge from and retain links back to the larger DART repository, students are introduced to a specific context within a given learning object, while remaining free to examine those same resources within the unconstrained context of the entire collection. This unique combination puts students into a relationship where they benefit from the added value of editorial and pedagogical structure without sacrificing the unfiltered access to a traditional library collection crucial to their own independent research. Because these publications and learning objects emerge from and lead back into the larger collection, DART offers an environment where undergraduates are given the ability to make the transition to graduate-level research methods in a way not available in most (digital or non-digital) secondary-source learning materials.

4.30PM–6.00PM ***Session 4: Faculty-Library Collaborations in Building Digital Collections***
(California Ballroom B, Second Level)

- Oya Y. Rieger, Director, Digital Library and Information Technologies, Cornell University Library, Moderator
- Leslie Johnston, Director, Digital Access Services, University of Virginia Library
- Ann Lally, Head, Digital Initiatives, University of Washington Libraries
- Danielle Mericle, Digitization Coordinator, Digital Consulting and Production Services, Cornell University Library

There are several initiatives among DLF members to promote library-faculty partnerships in creating digital collections. The goal of this presentation is to discuss the technical, financial, organizational, and policy issues brought up by these collaborations, which are different than internal digitization projects. Issues of rights, standards, workflows, and different terminologies and expectations can pose significant challenges for the participants of such initiatives.

Session 4 (continued)

This forum will bring together representatives from three libraries with faculty initiatives to compare and discuss experiences and best practices that are emerging in support of such programs. After a brief introduction by the panel organizer, there will be presentations by the panelists based on a standard set of questions. The goal is to offer a structured presentation to allow comparison of institutional policies and practices on issues such as service frameworks, financial aspects such as per image costs, standards implementation, promotion of the initiatives, lessons learned, rights management challenges, integration of these collections with internal projects, etc.

7:00PM–10:00PM *Reception* (Garden Pavilion and Terrace, Fourth Level)

DAY TWO: THURSDAY, APRIL 14, 2005

8:00AM–9:00AM *Breakfast* (Garden Pavilion, Fourth Level)

9:00AM–10:30AM *Session 5: Digital Libraries, Digital Commons, and the Digital Library of the Commons*
(California Ballroom A, Second Level)

- Charlotte Hess, Director, Digital Library of the Commons, Indiana University
- Andy Revelle, Library Coordinator, Digital Library of the Commons, Indiana University
- John A. Walsh, Associate Director for Projects and Services, Digital Library Program, Indiana University

Charlotte Hess, "The Digital Library of the Commons:
From Theory to Practice."

"Commons" are generally thought of as resources jointly shared by a group of people. In a commons, the groups can be small (the family refrigerator) or community-level (sidewalks, playgrounds, libraries, etc.), or very large, at the international and global levels (deep-sea oceans, the atmosphere, the Internet, and scientific knowledge).

Session 5 (continued)

The commons can be well-bounded (community forests, irrigation systems, libraries); trans-boundary (Danube River, migrating wildlife, the Internet); or without clear boundaries (knowledge, the ozone layer). The unifying thread in all commons resources is that they are jointly used, managed by groups of varying sizes and interests. Core to all commons are issues of collective action, equity, and sustainability. The Digital Library of the Commons (DLC), as a global repository, is itself a "commons" serving as a gateway to the scholarly literature on the commons and common-pool resources (CPRs). The DLC uses open-source software and is OAI-compliant. It contains over 1,100 full-text articles, conference papers, working papers, and dissertations. In addition to offering a self-publication portal, it contains other services, such as an advanced searching and browsing mechanism, a comprehensive, searchable bibliography, and a specialized keyword thesaurus. This presentation will focus on the institutional design of the DLC in order to serve an international, interdisciplinary community of students, scholars, practitioners, and policymakers interested in questions of effective resource management and sustainability.

Andy Revelle, "Uncommon Findings on Users of the Commons."

This presentation represents an informal assessment of the users and usage of the Digital Library of the Commons (DLC). The study employs both transaction log analysis and experiences working with users. It begins by presenting a profile of the DLC users, who are an international and interdisciplinary cohort of scholars, development-agency workers, and others concerned with the myriad of issues related to common-pool resources and the commons. This geographical and institutional variety represents a striking difference from the users of other self-archiving digital library collections, who tend to share institutional and/or academic affiliation. I discuss some issues presented by this diverse user group, most notably low user bandwidth and matters related to academic terminology and keyword classification. The presentation continues by discussing system usage. One function of the DLC is as a repository for papers presented at conferences related to common pool resources. We have observed a positive correlation between the number of hits and user submissions, and the posting of conference papers. I argue that this represents a possible solution for self-archiving repositories faced with low numbers of submissions.

Session 5 (continued)

John A. Walsh, "The Technological Growth of the Digital Library of the Commons."

The Digital Library of the Commons (DLC) has been, in many ways, a first for the Indiana University Digital Library Program. It was one of our first partnerships with a research center, in this case the Workshop in Political Theory and Policy Analysis (<http://www.indiana.edu/~workshop/>), and our first experience with self-archiving technologies. The DLC was originally and briefly developed on the IBM Content Manager platform. With the arrival of EPrints (<http://www.eprints.org/>)—the first widely implemented, open-source self-archiving platform—we migrated to the Eprints solution. Since then, we have upgraded from Eprints 1.x to 2.x and have gradually integrated into the EPrints-based site's additional features and functionality, including a searchable bibliography on literature of the commons, a linked keyword thesaurus, and full-text searching of the EPrints archive. My talk outlines the development of the Digital Library of the Commons, our experiences working with EPrints's self-archiving software, and our efforts to integrate additional features, beyond out-of-the-box EPrints functionality.

9:00AM–10:30AM ***Session 6: Fasten Your Seatbelts: We Are Approaching a Period of Turbulence . . .***
(California Ballroom B, Second Level)

- Ann Okerson, Associate University Librarian for Collections and Technical Services, Yale University, Moderator
- Mark Sandler, Director of Collections, University of Michigan Library
- Joseph Esposito, Portable CEO Consulting
- Bernard Frischer, Director, Institute for Advanced Technology in the Humanities, University of Virginia

The digital revolution is so 90s! We have accomplished much but have done so inside a now stable and predictable paradigm: online resources that look a lot like their artifactual equivalents, accessed through an OPAC, searched with search engines that improve their functionality by working more and more like print systems squeezed through a 1950 issue of *Popular Science* (making footnotes active links, incorporating illustrations that turn out to be animated), and all using computers of a size, shape, and brand of operating system that we've been familiar with for at least a decade. The premise of this session is that it's good to be reminded of the turbulence ahead so that libraries will be prepared to address it adequately.

Session 6 (continued)

Mark Sandler will take us to the Google Print construction site to think about what happens when the real science fiction transformation of print in the spirit of Vannevar Bush happens and every book potentially becomes available online. Joseph Esposito will take us to a world beyond today's electronic journals, those publications we love to hate, and will imagine for us the post-journal culture in all its creative glory, while asking the question, what would we create today if we did not know journals? Bernard Frischer will lift us off the page into the third dimension—a dimension we will access away from our comfortable desks and traditional monitors. Your life preserver is under your seat or in the armrest.

10:30AM–11:00AM *Break* (California Foyer, Second Level)

11:00AM–12:30PM *Session 7: New User Services*
(California Ballroom A, Second Level)

“In Search of the Single Search Box: Building a ‘First-step’
Library Search Tool.”

Tito Sierra and Steve Morris,
North Carolina State University

Libraries are under increasing pressure to provide users with a single search box that provides access to the diverse set of content and services available through the library website. Neither library catalogs nor generic Web site search tools meet this need directly. Metasearch, while promising, is still generally characterized by slowness, incompleteness in coverage, and confusing result sets. At NC State, an analysis of library Web site search logs indicated that a large percentage of user-submitted search terms target similar classes of content (e.g., database names, journal titles, library information) to which the library could readily provide a direct link. Concurrent with implementing a next generation metasearch tool, NCSU Libraries is developing a new Web site search tool designed to provide users with quick and comfortable access to distributed silos of library content. A "sponsored-links" component of this tool connects users to relevant high-use library resources and information. A subject-identification component provides contextual links to subject resource guides. Integrated results from ancillary local indexes enable use of the tool as a "first-step" in library search.

Session 7 (continued)

This presentation will describe an in-house solution based on open source tools such as Nutch and SWISH-E. Challenges of current development will be discussed and future development directions will be outlined.

“Video Information Retrieval: What's New Now.”

Gloria Rohmann, Head of Media &
Electronic Services, NYU Libraries

All of a sudden, it looks like Web services that deliver multimedia are beginning to take off. Yahoo, Google, and Blinkx have announced search services that go beyond crawling HTML to deliver video based on the content "within" the stream. How does this work? What does it mean for scholarly applications? Since commercial computer applications usually drive the development of affordable, scalable, scholarly tools, what are the prospects for video IR in the scholarly context? Topics that will be covered:

- What is digital video?
- Physical and semantic structure of digital video: How much content can be extracted automatically?
Recent projects;
- Annotation tools: humans required;
- Design of search interfaces: What works? Recent studies; and
- Delivery to desktops and mobile: decoders and players.

11:00AM–12:30PM *Session 8: Collaborative Services*
(California Ballroom B, Second Level)

“*Southern Spaces: A Collaborative Model for Open Source Scholarly Publishing.*”

Katherine Skinner, Emory University

This presentation will provide an overview of the intensive collaboration between librarians and scholars that has produced the peer-reviewed internet journal, Southern Spaces (www.southernspaces.org). It will consider the viability and sustainability of the model Southern Spaces offers of born digital, library-supported publishing. Recent advances in digital technologies have fostered new forms of information exchange that have significant implications for the field of scholarly publishing.

Session 8 (continued)

Although various internet publishing models, including born print and born digital, have been tested by scholarly presses, society presses, and commercial entities, no institutionalized form of scholarly e-publishing has emerged to date.

Further, although libraries have subscribed to, and sometimes even hosted, many of these new e-publication forms, few libraries have participated collaboratively in the creation and maintenance of internet-based publications. Emory University's MetaScholar Initiative pioneered a collaborative model for library-based e-publishing by bringing together librarians and scholars to design and implement a born digital, open access publication, Southern Spaces. This peer-reviewed internet journal and scholarly forum seeks to expand the potentials of scholarly publication in two seminal ways. First, it reexamines the relationship between form and content, pushing scholarship toward new multimedia explorations of topics that cannot be managed in traditional print formats. Second, it explores the possibility of the library taking on a new role as a publishing center for scholarly work. This presentation will encourage discussion of the feasibility of fostering and supporting such open access journals as digital library initiatives.

“Creating an Online Library of Map and Geospatial Data:
Challenges and Opportunities.”

Tsering W. Shawa, Princeton University

This presentation will share how we designed a system that allows us to manage, store, and make scanned maps, aerial photographs, satellite images, and geospatial data accessible online. The system was designed using off-the-shelf commercial software packages such as ESRI's ArcCatalog, ArcIMS, and ArcSDE, Mapping Science's GeoJP2 Image Server, Encoder and Decoder, Microsoft's SQL Server database, and Safe Company's SpatialDirect and FME. The presentation will not only discuss how and why we designed this special system architecture but also how we developed our workflows, what standards we used in creating metadata, scanning maps, and compressing images using JPEG2000 technology, and what lessons we learned from designing this complex system.

12:30PM–2:30PM *Break for Lunch* (Individual Choice)

2:30PM–4:00PM **Session 9: Advances in Shareable Metadata and Web Services**
(California Ballroom A, Second Level)

“Best Practices for OAI Data Provider Implementations and Shareable Metadata: A DLF Initiative.”

Kat Hagedorn, University of Michigan and
Sarah L. Shreeves, University of Illinois at
Urbana-Champaign

The Open Archives Initiative Protocol for Metadata Harvesting (OAI-PMH) has been widely adopted since its inception in 2001; there are currently over 500 active 2.0 data providers from a wide variety of domains and institution types. The protocol has demonstrated its usefulness as a tool to move and aggregate metadata from diverse institutions. The first phase of the Digital Library Federation's *Aquifer* project will include an OAI-based repository for metadata harvested from participating DLF members. However, as the protocol has become more widely adopted, several broad areas of concern have surfaced—mainly through the documentation of service providers—that would benefit from the establishment of best practices. In the summer of 2004 a group of DLF and NSDL affiliated OAI data and service providers began work on a set of best practices for both data and service providers. These cover implementation practices to be encouraged among data and service provider groups; communication both among and between data and service providers; and the optimization of shareable metadata.

This talk will present the completed drafts of two sections of the OAI Best Practices work—OAI data provider implementations and shareable metadata—to the DLF membership. We will briefly discuss the process of creating the best practices, highlights from these two sections, and discuss next steps in the process, including the need to operationalize the best practices through development of tool sets and implementation within commercial and open source content management systems. We will offer an opportunity for feedback and discussion.

“OCKHAM Update.” Jeremy Frumkin, Oregon State University

The OCKHAM Initiative is a collaborative effort to promote interoperability among digital library services. Sponsored by the Digital Library Federation, the initiative is currently working on a funded NSF/NSDL grant to build a digital library services registry, and a suite of digital library services. This presentation will consist of an overview of the initiative, a detailed look at the digital library services registry, and a close look at the digital library services developed by the project.

2:20PM–4:00PM ***Session 10: LOCKSS and the Humanities***
 (California Ballroom B, Second Level)

- Tom Robertson, Assistant Director and Technical Manager, LOCKSS Program
- Ann Okerson, Associate University Librarian for Collections and Technical Services, Yale University
- Glen Worthy, Head, Humanities Digital Information Service, Stanford University
- John Ockerbloom, Digital Librarian Planner, University of Pennsylvania
- Bill Kehoe, Digital Analyst, Cornell University

In February 2004, 13 institutions met and agreed to collaborate on a project to collect and preserve important, born digital, freely available humanities e-journals using the LOCKSS system. These 13 institutions (and others) are contributing time from a technical person, time from a collection development person, and a LOCKSS computer:

- Columbia University
- Cornell University
- Harvard University
- Indiana University
- Johns Hopkins University
- Library of Congress
- New York University
- New York Public Library
- Princeton University
- Stanford University
- University of Pennsylvania
- University of Wisconsin
- Yale University

To date the group has identified hundreds of titles. The quality of these at-risk e-journals is such that most research libraries would have them, if they were available on paper. In many cases their use of multimedia and animation make paper versions impossible. As titles from this project are released for preservation, they are listed at <http://lockss.stanford.edu/about/titles.htm>. The group has experience with the efficacy and efficiency of using the LOCKSS system to build born digital, open access, humanities e-journals collections. Specifically we have experience: selecting titles; obtaining publisher permission; developing software; collecting; and preserving the content.

Session 10 (continued)

This cooperative collection development model may be applicable to other subjects with important collections of born digital and open access content. The speakers will address, from their perspective: reasons for participation; processes and procedures to date; and early key insights. We've chosen to have more than the usual number of speakers, and to have each person speak briefly (10 minutes) to underscore the community and collaborative nature of this work. Ann Okerson will address broad strategic collections issues and moderate panel; Tom Robertson will address LOCKSS Program technical progress, including OAI and format migration; Glen Worthy will address collection curatorial issues; and John Ockerbloom and Bill Kehoe will address processes and insights from various technical perspectives.

4.00PM–4.30PM **Break** (California Foyer, Second Level)

4.30PM–6.00PM ***Birds of a Feather (BOF) Sessions:***

1. *Digital Library Education* (Coronado, Third Level)

Kristine Brancolini, Digital Library Program, Indiana University;
Leigh Estabrook, Graduate School of Library and
Information Science, University of Illinois Urbana-Champaign

In October 2004 Indiana University and University of Illinois Urbana Champaign began an IMLS-funded project to create two research-based curricula at our respective schools of library and information science to prepare librarians for work in digital library programs in libraries, archives, and museums. "Building an Effective Library Curriculum through Library School and Academic Partnerships" builds upon the experience of the digital library programs at these universities and the desire on the part of their library schools to learn from practitioners. Many library schools offer "digital library" courses, but how well do library school courses synchronize with the knowledge and skills actually needed by librarians who work in digital library programs? To be successful we must engage in discussions with librarians from many different digital library settings. The Digital Library Federation Forum offers a perfect opportunity for interacting with these librarians. At the spring forum in San Diego we would like to have a more informal discussion with others who might be interested in this topic.

BOF 1 Session (continued)

We will give a brief overview of our results to date, but the real purpose would be discussion with librarians from all levels of experience. Our project also includes paid and unpaid internships. In addition to discussing education for digital librarianship in general, we would also like to get a sense of other institutions that might be willing to supervise interns from our new program, which will be launched in fall 2005. For more information, please see the project web site:
<http://lair.indiana.edu/research/dlib/index.php>

2. *Preservation Metadata* (Harbor A, Third Level)

Rebecca Guenther, Library of Congress, Priscilla Caplan,
University of Florida, and Brian LaVoie, OCLC

A discussion of recent advances in the area of preservation metadata. By the time of the Forum the PREMIS preservation metadata element set and data dictionary will have been in public circulation for more than a month. This would be a good time to start a new discussion about where we are with preservation metadata, how it is being implemented and managed at different institutions, and what the next steps should be to move forward in this area. Topics which might be discussed at the BOF could include, but would certainly not be limited to, the potential for formal standards-building in this area; opportunities for collaborative creation and sharing of preservation metadata across repositories; automated tools; and the role of registries in supporting maintenance of certain forms of preservation metadata.

3. *OAI Best Practices* (Harbor B, Third Level)

Sarah Shreeves, University of Illinois at Urbana-Champaign

The Open Archives Initiative Protocol for Metadata Harvesting (OAI-PMH) has been widely adopted since its inception in 2001; there are currently over 500 active data providers from a wide variety of domains and institution types. The protocol has demonstrated its usefulness as a tool to move and aggregate metadata from diverse institutions. However, as the protocol has become more widely adopted, several areas of concern have surfaced that would benefit from documentation of best practices. This session will be a discussion of the work of a DLF convened group to develop best practices for OAI data and service providers, particularly on two sections on 1) the implementation of OAI data providers and 2) shareable metadata. We encourage participants to actively share their concerns, questions, and ideas on these guidelines.

4. *Digital Imaging* (Balboa, Third Level)

Clay Redding, Metadata Librarian, Princeton University
Roel Muñoz, Library Digital Projects, Princeton University

Digital imaging and related technologies. Topics include:

- equipment
- imaging and metadata workflows
- color management
- bulk and archival storage issues
- digital preservation initiatives
- growing use of JPEG2000
- automated generation of technical metadata such as MIX/Z39.87
- improving communication amongst practitioners

DAY THREE: FRIDAY, APRIL 15, 2005

8:00AM–9:00AM *Breakfast* (Garden Pavilion, Fourth Level)

9:00AM–10:30AM *Session 11: The National Digital Information Infrastructure and Preservation Program (NDIIPP): DLF Institutional Participation* (California Ballroom A, Second Level)

- Martin Halbert, Emory University, Moderator
- Caroline Arms, Library of Congress
- David Ackerman, New York University
- Suzanne Samuel, California Digital Library
- Steven Morris, North Carolina State University

This panel will include a brief introductory recap of the NDIIPP, as well as brief presentations by DLF institutions participating in the program concerning the goals of the cooperative projects they are leading.

9:00AM–10:30AM *Session 12: Digital Library Grid Initiatives*
(California Ballroom B, Second Level)

- MacKenzie Smith, MIT, Moderator
- Reagan Moore, San Diego Supercomputer Center
- Richard Rodgers, MIT
- Ray Larson, UC Berkeley SILS

This panel will describe several important projects which are working on applications of the computational grid (<http://www.globus.org/>) and the data grid (<http://www.sdsc.edu/srb/>) to the digital library and archives domain. Three presentations will review current projects and discuss their relevance to the future of digital library developments. The three presentations will include:

- Reagan Moore, San Diego Supercomputer Center, on the NARA persistent archive prototype;
- Richard Rodgers, MIT, on the NARA DSRB project to integrate data grid technology provided by SRB middleware into the DSpace repository platform; and
- Ray Larson, UC Berkeley SILS, on the Digital Library Grid initiative, which will integrate grid technology (including SRB) into Cheshire.

Each of these projects is looking at some aspect of digital library work, either in the discovery process (e.g., Cheshire) or the digital library arena (e.g., DSpace) or the digital archives arena (e.g., the persistent archive prototype), and all are working with SRB and related grid tools to accomplish this. By including this range of grid-based projects the panel will outline a roadmap for how grid technology might affect digital library work over the next five to ten years.

10:30AM–11:00AM *Break* (California Foyer, Second Level)

11:00AM–12:30PM *Session 13: New Provider Services*
(California Ballroom A, Second Level)

“METS Navigator: A METS-based Display and Navigation Utility for Multi-Part Digital Objects.”

- John Walsh, Associate Director for Projects and Services, Indiana University Digital Library Program
- Jenn Riley, Metadata Librarian, Indiana University Digital Library Program
- Dazhi Jiao, System Analyst / Programmer, Indiana University Digital Library Program
- Michelle Dalmau, Interface and Usability Specialist, Indiana University Digital Library Program

The presentation will discuss METS Navigator, a METS-based system for displaying and navigating multi-image digital objects. Using the information in the METS <structMap> elements, METS Navigator builds a hierarchical menu that allows users to navigate to specific sections of a document, such as title page, specific chapters, illustrations, etc. METS Navigator also allows simple navigation to the next, previous, first, and last page image or component part of a digital object. METS Navigator also makes use of the descriptive metadata in the METS document to populate the interface with basic descriptive information about the digital object.

METS Navigator was initially developed by the Indiana University Digital Library Program for the online display and navigation of brittle books digitized by the IU Libraries' E. Lingle Craig Preservation Laboratory. However, realizing the need for such a tool across a wide range of digital library projects and applications, we designed the system to be generalizable and configurable. We have also designed METS Navigator with the goal of eventual release as a free open source utility for the wider digital library community. Our presentation will trace the development of METS Navigator, demonstrate the METS Navigator system, review METS Navigator configuration options, and outline plans for future development. METS Navigator is built using Java and open source Web technologies, including the Apache Struts Web Application Framework, the Castor Java & XML Data Binding libraries, and Ant, and runs under a Web application server such as Apache Tomcat.

Session 13 (continued)

“CDL's Interface Customization Tools: How One Provider of Digital Library Tools Enables Service Providers to Skin and Slice Bodies of Content.”

Steve Toub, Web Design Manager,
California Digital Library

Among other activities, the California Digital Library (CDL) provides site-building tools to digital libraries. CDL's Interface Customization Tools were first released in April 2004. At present, several service providers are using this set of templates and documentation in conjunction with CDL's XML gateway to provide branded interfaces for the subset of content they have submitted to CDL's repository. CDL is expanding this set of templates and documentation to allow its customers to be able to "skin and slice" TEI-encoded texts and EAD-encoded finding aids; this new system works in parallel with the new Lucene-based platform for searching and displaying well-formed XML: eXtensible Text Framework (XTF), which was introduced at the Fall 2004 DLF Forum. In addition to illustrating how the XSLT-based customization tools work, the presenter will cover lessons learned, current development, and future plans including:

- the ability for non-programmers to work with the system;
- re-factoring the display XSLTs to take advantage of a common branding configuration file;
- issues relating to conversion of the repository from a file system to a database;
- the inclusion of JSP in addition to XSLT;
- how to apply interface customization within CDL's metasearch platform; and
- consideration of how generalizable and transferable these tools will be both to future activities at CDL and to others in the community.

11:00AM–12:30PM *Session 14: New Challenges in Digital Preservation* (California Ballroom B, Second Level)

“DSpace and Web Material: From Preserving Bundled Web Pages to Preserving Websites as Applications.”

Leslie Myrick, Digital Library Programmer/Analyst,
New York University

Session 14 (continued)

As a partner in the DPP "Web at Risk" Project headed by the California Digital Library, NYU will be examining the feasibility of using DSpace for the ingest, storage, preservation of and access to websites. DSpace 1.x introduced functionality to ingest and store HTML pages along with any ancillary files (e.g. images, .css) as bundles of bitstreams with the HTML wrapper nominated as the primary bitstream for display purposes. HTML pages can be thus ingested, stored, displayed and accessed as discrete bundled units—not necessarily as navigable components of a website. By nominating a website's entry page as the primary bitstream to all other files, on the other hand, entire websites can also be ingested as such and navigated internally to DSpace. This presentation will offer a preliminary analysis of changes necessary to make DSpace 2.x and METS fully amenable to website ingest, management, access and navigation when the source of the ingest is a gzipped Heritrix .arc archive. Analysis will include an exploration of the relative strengths and quirks in the data models of various Content Packaging Standards such as METS, IMS-CP, XFDU and DIDL in managing website objects whether deposited in DSpace or other repository systems.

“Old Wine in New Wineskins: Sustaining Access to and Preserving Legacy Digital Collections.”

Joy Paulson, Preservation Librarian, Mann Library,
Cornell University

The earliest digital library collections are now more than a decade old. These early collections were often created as part of research and demonstration projects at a time when there were no best practices or standards for digital library creation. Some of these collections are no longer available online and some have disappeared entirely due to the use of proprietary software or technology that has become outdated. However, a number of these collections are still available online, although they may not meet best practices now in place. For example, metadata standards have only developed more recently. Many early digital collections may have recorded little or no metadata, or they were scanned at resolutions less than 600 dpi. Are these collections worth maintaining access to and preserving? What types of enhancements may be necessary to maintain access to or to preserve these collections?

Session 14 (continued)

The Core Historical Literature of Agriculture (CHLA), created at Cornell in a series of projects between 1992 and 2000, will be used as a case study to examine these issues and the level of resources, staff and financial, necessary to maintain access to legacy collections and to enhance them for improved access and preservation.

POST-CONFERENCE: FRIDAY, APRIL 15, 2005

12:30PM–5:30PM ***DLF Developers' Forum—by Invitation Only;
“Linking Public Search Engines to Library
Content: A Considering of Approaches.”***
(Santa Fe Room, Second Level)

1:00PM–6:00PM ***DLF OAI Best Practices and IMLS Project Teams
Joint Meeting—by Invitation Only***
(Library, Lobby Level)

BIOGRAPHIES

A

David Ackerman currently serves New York University in a dual appointment as Executive Director for eServices and for Digital Library Initiatives. He oversees academic and shared computing services in Information Technology Services and the Digital Library program under Dean Carol Mandel in NYU Libraries. David has been at NYU for 15 years. During that time, he has also served as technology consultant to the Soros Foundations, Expert on Mission to the United Nations, and the Founding Chairman of the Board of the New York chapter of the Internet Society (ISOC-NY). He is the PI for NYU as a partner on two LC NDIIPP grants.

Noha Adly is the Director of the Information and Communication Technology (ICT) Department and the International School of Information Science (ISIS) in Bibliotheca Alexandrina. She is an Associate Professor in the Computer & Systems Engineering Department, Faculty of Engineering, Alexandria University. She obtained her Ph.D. in Computer Science at Cambridge University, UK in 1995. She was a Research Associate at AT&T Cambridge Research Laboratory (1995–1997) and a Visiting Researcher (1997–2000). Since 1997, Dr. Adly has been a Consultant for information systems to several firms. She has also served as Consultant to Bibliotheca Alexandrina for the design and installation of its network and its information system as well as the design and implementation of the library information system, namely a trilingual information system that offers full library automation. Dr. Adly is a member of the ACM and the IEEE Computer Society as well as several other scientific, social and humanitarian organizations. Her research interests are distributed systems, database systems and digital libraries. Dr. Adly is also author/co-author of more than 25 publications in peer reviewed journals and scientific conferences in the field of computer science and engineering.

Caroline Arms is the NDIIPP program officer for two of the eight initial Digital Preservation Partnerships. At the Library of Congress, she has played a technical role in managing and providing access to digital content, including analysing digital formats for sustainability, integrating twenty-seven collection from other institutions into American Memory, and making descriptive records for Library of Congress collections harvestable by others.

Edward Ayers is the Dean of the College and Graduate School of Arts and Sciences and the Hugh P. Kelly Professor of History at the University of Virginia. He was educated at the University of Tennessee and Yale University, where he received his Ph.D. in American Studies. He has written and edited eight books. *Vengeance and Justice: Crime and Punishment in the Nineteenth-Century American South* (1984) won the J. Willard Hurst Prize for best book in American legal history. *The Promise of the New South: Life After Reconstruction* (1992), a finalist for both the National Book Award and the Pulitzer Prize, was named the best book on the history of American race relations and on the history of the American South. In 2003, *In the Presence of Mine Enemies, War in the Heart of America 1859–1863* was published by W.W. Norton and Company. It has since received the 2004 Bancroft Prize for a distinguished book in American History and the American Historical Association's Albert J. Beveridge Award, for the best English-language book on the history of the US, Canada, or Latin America from 1492 to the present. In November 2003, he was named the National Professor of the Year for doctoral and research universities by the Carnegie Foundation for the Advancement of Teaching and the Council for Advancement and Support of Education (CASE).

Ayers pioneered in digital media with "The Valley of the Shadow: Two Communities in the American Civil War" (<http://valley.vcdh.virginia.edu/>). The World Wide Web version of the project has attracted over 4 million visitors. The web and CD ROM version, published by W. W. Norton and Company in 2000, won the first annual eLincoln Prize for best digital work on the era of the American Civil War. President Clinton appointed Ayers to the National Council on the Humanities in 2000. Ayers has been a fellow at the Center for Advanced Study in the Behavioral Sciences, Palo Alto (1999–2000) and has served as the Fulbright Commission's John Adams Professor of American Studies, University of Groningen, The Netherlands (1995). He was named to the Board of the Council on Library and Information Resources (2002), and to the Board for the National Council for History Education (2003).

B

Kristine Brancolini is the Director of Indiana University Digital Library Program. She is the supervisor of several internally and externally funded DL projects at IU, and has taught courses at the university on information resources, audio/video delivery, and collection management. She is widely published in the area of media management and is active in professional societies in library and information science.

C

Priscilla Caplan is the Assistant Director for Digital Library Services at the Florida Center for Library Automation, where she provides services to the libraries of the eleven state universities of Florida. She coordinates the PALMM program (Publication of Archival, Library, and Museum Materials), and is overseeing the development of the FCLA Digital Archive, a digital preservation repository. Caplan has been active in standards for digital libraries for many years. She chaired the NISO Standards Development Committee from 1997–2002. She chaired the committees that wrote and recently revised the NISO/IMLS Framework of Guidance for Building Good Digital Collections. She currently co-chairs the OCLC/RLG Working Group on Preservation Metadata: Implementation Strategies (PREMIS), and the NISO/EDItEUR Joint Working Party for the Exchange of Serials Subscription Information (JWP). Her publications include the book *Metadata Fundamentals for All Librarians*, and numerous articles on standards, metadata, reference linking, and digital preservation.

G. Sayeed Choudhury is the Associate Director for Library Digital Programs and Hodson Director of the Digital Knowledge Center at the Sheridan Libraries of Johns Hopkins University. He serves as principal investigator for projects funded through the Library of Congress, National Science Foundation, Institute of Museum and Library Services, and the Mellon Foundation. He has oversight for the digital library activities and services provided by the Sheridan Libraries at Johns Hopkins University.

Mark Conrad is an archives specialist working in the Research Division of the Electronic Records Archives (ERA) Program of the National Archives and Records Administration. In this position, he works with computer scientists and engineers from around the world and NARA staff to ensure that the ERA program takes advantage of the latest relevant technological developments in building ERA.

Morgan Cundiff is a Senior Standards Specialist in the Network Development and MARC Standards Office at the Library of Congress. He is responsible for work on the METS and MIX metadata standards and is also a member of the technical team responsible for building METS-based digital library applications, including "I Hear America Singing" (<http://www.loc.gov/rr/perform/ihas/>) and the "Veterans History Project" (<http://www.loc.gov/folklife/vets/vets-home.html>). Before joining NDMSO three years ago he served in the Library of Congress National Digital Library Program where he was Project Leader for eight American Memory Music Division projects. Morgan has represented the Library of Congress on the METS Editorial Board since it was formed in 2001.

D

Gordon Dahlquist manages Columbia University's Academic Information Systems, R&D E-Publishing Services group. The group coordinates production, design, and editorial development for electronic publications, including Columbia International Affairs Online, Columbia Earthscape, Gutenberg-e, and DART.

Michelle Dalmau is the Interface and Usability Specialist for Indiana University's Digital Library Program (DLP) and Library Electronic Text Resource Service (LETRS), where she conducts iterative user studies. Her current research interests include the integration of complex metadata structures into the browse and search functionality of collections, as well as the documentation of pedagogic and didactic approaches to digital image resources. Other projects Michelle has contributed to include the Letopis' Zhurnal'nykh Statei and the Film Literature Index. Her background is in English and Art History, and she is currently pursuing a dual Masters degree at the School of Library and Information Science at Indiana University.

Tim DiLauro is the Digital Library Architect in the Library Digital Programs and Digital Knowledge Center of the Sheridan Libraries at Johns Hopkins University. Since 1982, he has worked for JHU as a Programmer, Systems Programmer, and Sr. Systems Programmer, with a network programming and management component. He has been with the Sheridan Libraries since 1990. He has also worked as a consultant for several companies with Internet businesses. Since 1995, his project work has focused on designing systems to improve and simplify user access to information, including the development of access gateways and web proxies. His current work deals with the integration of multiple repositories with multiple services to support digital collections, learning, publishing, and preservation.

E

Joseph Esposito is President of Portable CEO, an independent consultancy providing strategy assessment and interim management to the information industries. Over the course of his career, Mr. Esposito has been associated with various publishers in all segments of the industry and was involved from an early time with new media publishing. He has served as an executive at Simon & Schuster and Random House, as President of Merriam-Webster, and CEO of Encyclopaedia Britannica, where he was responsible for the launch of the first Internet service of its kind. Among Mr. Esposito's clients are such technology companies as Microsoft and Hewlett Packard, various publishers of all stripes, and a growing number of not-for-profit organizations.

Esposito (continued): Current projects include business development for a large not-for-profit institution, electronic textbooks, The Processed Book Project (experimental interactive texts), and consultation on mergers and acquisitions. He has participated in numerous trade shows and has written extensively in trade magazines and journals. He is currently researching new economic models for a post-copyright age. He can be reached at esposito@gmail.com.

Leigh Estabrook is professor of library and information science, professor of sociology, and director of the Library Research Center at the University of Illinois at Urbana-Champaign. She is the UIUC campus liaison to the Worldwide University Network and is active with the campus Academy for Entrepreneurial Leadership. From 1986–2001 she was Dean of the School. During that time GSLIS was ranked first among LIS schools in the United States and the School began its award-winning distance education offering of its professional master's degree program. Professor Estabrook is the author of almost 50 journal articles. She is a frequent consultant to library vendors, academic and public libraries. Among her recent grant funded projects are a study of "The Book as the Gold Standard for Promotion and Tenure in the Humanities and Social Sciences" funded by the Mellon Foundation and an "Institute on Outcomes Based Evaluation" funded by the United States Institute on Museum and Library Services. Dr. Estabrook received her Ph.D. from Boston University in sociology, her M.S. in library science from Simmons College and her A.B. in history from Northwestern University. In 2002 she received the Beta Phi Mu Award from the American Library Association for "distinguished service to education for librarianship." In 2003 she was awarded the Association for Library and Information Science Award for professional contributions to library and information science education.

F

Bernard Frischer is Director of the Institute for Advanced Technology in the Humanities and Professor of Classics and Art History at the University of Virginia. Professor Frischer is a leading scholar in the application of digital technologies to humanities research and education. He is the founder and director of the Cultural Virtual Reality Lab at UCLA, which uses three-dimensional computer modeling to reconstruct cultural heritage sites. Frischer has overseen many significant projects, including virtual recreations of the Roman Coliseum and the Roman Forum. Frischer's research career reflects his interest in interdisciplinary approaches, and has included studies in the literature, philosophy, art history and archeology of Greece and Rome.

Frisher (continued) He is the author of four books, including *Shifting Paradigms: New Approaches to Horace's Ars Poetica*, and *The Sculpted Word: Epicureanism and Philosophical Recruitment*.

Jeremy Frumkin is the first holder of the Gray Family Chair for Innovative Library Services at Oregon State University. Prior to that appointment, he was the digital library specialist at the University of Arizona Library. Jeremy is a co-PI on the DLF's Ockham Project, funded by the National Science Foundation's National Science Digital Library Program. As part of the grant, he is working with colleagues from Emory, Notre Dame and Virginia Tech universities on easier access to scientific data. He is also leading the team that is working closely with OSU's Institute for Natural Resources to provide local governments and state policy makers with easy access to current and historic information on Oregon's natural resources. The site—Virtual Oregon: A Natural Resources Library—will give users text, photographs and geo-spatial information, as well as reference other important natural resources sites.

G

Rebecca Guenther is Senior Networking and Standards Specialist in the Network Development and MARC Standards Office of the Library of Congress. She has been in her current position since 1989 and at the Library since 1980. Her current responsibilities include work on national and international information standards. Some of her current activities include member of the NISO Standards Development Committee, co-chair of PREMIS, an OCLC/RLG working group on preservation metadata implementation strategies; participation in development of XML bibliographic descriptive schemas (MODS and MARCXML); member of the DCMI Usage Board, member of the DLF Registry of Digital Masters Working Group; rotating chair of the ISO 639 Joint Advisory Committee on language codes.

H

Kat Hagedorn is OAIster / Metadata Harvesting Librarian at the University of Michigan Libraries. She currently manages the OAIster project, a search gateway for OAI harvested records leading to digital objects, initially Mellon-funded in 2001–2002. She is also responsible for DLXS Bibliographic Class and co-coordinates the processing of Text Class materials. Her previous experience is in information architecture (with the Argus Associates firm) and ontology and taxonomy consulting (with the Food and Agriculture Organization in Rome). She graduated with an undergraduate degree in Biological Sciences from Cornell University and got her MLIS at the University of Michigan in 1996.

Martin Halbert is Director for Library Systems at Emory University. He is currently a principal investigator on the NSF-funded Ockham Project, on DLF's IMLS-funded work to research, design, and prototype a "second generation" OAI finding system, and on two Mellon-funded metadata harvesting initiative projects. He also serves as executive director of the MetaScholar Initiative, a consortium of thirty institutions working to aggregate metadata for scholarly portal services. Martin serves as the chair of the LOCKSS sub-committee on Institutional Access Integration, and has there studied issues of low-cost library server networks and associated integration issues. He has served as editor of several library publication projects, and currently supervises a university library division of fourteen professional staff.

Charlotte Hess is the Director of Library and Information Services at the Workshop in Political Theory & Policy Analysis, Indiana University-Bloomington. She is also the Founder and Director of the Digital Library of the Commons; and is the Information Officer for the International Association for the Study of Common Property. Recently Hess has been collaborating with Political Economist, Elinor Ostrom, writing on "knowledge as a commons." They have written two papers: "Ideas, Artifacts, and Facilities: Information as a Common-Pool Resource." 2003. *Law and Contemporary Problems* 66:111-145 <http://www.law.duke.edu/journals/66LCPHess> ; and "A Framework for Analyzing Scholarly Communication as a Commons." 2004. <http://dlc.dlib.indiana.edu/archive/00001244/>. Currently, Hess and Ostrom are working on a book.

Brian Hoffman is an information architect and web developer with Columbia University's Academic Information Systems. His work focuses on the production of electronic publications that contain libraries of digital and digitized resources.

J

Dazhi Jiao is a System Analyst and Programmer of the Digital Library Program and Library Electronic Text Resource Service (LETRS) at Indiana University. David has 5 years of experiences in software and web application development. He has actively involved in the design and implementation of several digital library collections at Indiana University as the key developer. David holds a Master's degree in Computer Science from Virginia Tech.

Leslie Johnston is the Director of Digital Access Services at the University of Virginia Library, where she manages digital library program components supporting the collection, management, and dissemination of digital content. Previously, she served as the Head of Instructional Technology and Library Information Systems at the Harvard Design School, where she managed the implementation of instructional technology projects for faculty and coordinated information systems and new media projects for Design Library. Prior to that, Ms. Johnston worked as the Academic Technology Specialist for Art for the Stanford University Libraries, Systems Project Coordinator at the Historic New Orleans Collection, and as Database Specialist for the Getty Research Institute. Ms. Johnston also served for many years on the Board of Directors of the Museum Computer Network, and was founding editor of ESpectra, the MCN news portal for the cultural heritage information management community.

K

William Kehoe is a Programmer/Analyst Specialist in the Cornell University Library system. After contributing to several of Cornell's digital libraries, including the USDA Economics & Statistics System and the Cornell Geospatial Information Repository, he became involved with digital preservation research in 1998, working on a CLIR-funded project on file format migration. Recently he has participated as an instructor in Cornell's Digital Preservation Management Workshops, and on the technical team for a multi-institution Political Communication Web Archiving project. He is currently the EATMOT project manager for the Cornell Library team building a federated archive of mathematical journals in collaboration with the Göttingen SUB.

Corey Keith is a Digital Project Coordinator at the Library of Congress.

Katherine Kott is the director of the DLF Aquifer Digital Library initiative. Her professional career has included experience in academic library systems, and in technical and public services. Most recently, Kott was the head of cataloging and metadata services at Stanford University, where she is based. Before coming to Stanford, she led the implementation services department at a major ILS vendor, coordinating the installation of systems at a wide range of libraries, including consortia.

L

Brian LaVoie is a Research Scientist in the Office of Research at OCLC Online Computer Library Center, Inc. Since joining OCLC in 1996, he has worked on projects in many areas, ranging from expanding and updating the Cutter tables, to analyzing the content of the Web. Brian's research interests include the economics of information, digital preservation, and the development of harvesting and content analysis tools for the Web.

Ann Lally is Head of the Digital Initiatives program at the University of Washington Libraries where she is responsible for the coordination of digital-based projects throughout University of Washington Library system including the implementation of an institutional repository service. She is also involved in the Libraries Digital Scholarship initiative activities which include new media documentation and access, and geo-spatial data visualization. She served as the Associate Director of the Artificial Intelligence Lab at the University of Arizona Management Information Systems Department for two and a half years; before that she was the Architecture Librarian for the University of Arizona Library.

Ray Larson. Ray Larson's research is focused on the design and performance evaluation of information retrieval systems, and the evaluation of user interaction with those systems and he is the primary developer and architect for the Cheshire II and III Information Retrieval Systems. His background includes work as a programmer/analyst with the UC Division of Library Automation (DLA) where he was involved in the design, development, and performance evaluation of the UC public access online union catalog (MELVYL). In addition much of his research has concentrated on the design and evaluation of Digital Libraries. Prof. Larson was a faculty investigator on the Sequoia 2000 project, where he was involved in the design and evaluation of a very-large-scale, network-based, information system to support the information needs of scientists studying global change. He was also a faculty investigator on the UC Berkeley Environmental Digital Library Project (One of the 6 original digital library projects sponsored by NSF, NASA and DARPA) that developed a very large environmental information system providing access to information on the California Environment and on "Re-inventing Scholarly Information Dissemination and Use". Prof. Larson was the principal investigator for the "CHESHIRE Demonstration and Evaluation Project" sponsored by the US Dept. of Education, that developed a next-generation online catalog and full-text retrieval system. He was a co-principal investigator for the "Searching Unfamiliar Metadata Vocabularies" project sponsored by DARPA.

Larson (continued): Prof. Larson was also the principal investigator of the "Cross-Domain Resource Discovery: Integrated Discovery and Use of Textual, Numeric and Spatial Data" project sponsored by NSF as part of the International Digital Libraries program. Prof. Larson's current research is concerned with effective retrieval of XML, Geographic Information Retrieval (GIR), and Grid-Based Digital Libraries. He is co-principal investigator on the "Support for the Learner: What, Where, When, and Who" project funded by the Institute for Museum and Library Services, and a participant in the National Text Mining Centre program in the U.K., in collaboration with the University of Liverpool and the University of Manchester. Prof. Larson also serves as Associate Dean of SIMS.

M

Danielle Mericle is the Digitization Lab Coordinator for the Digital Consulting and Production Services Unit at Cornell University Library. In addition to overseeing the creation of digital content for Cornell Library, she also serves as project manager for many of University's faculty grant projects. Previously, she worked as the primary photographer for New York Public Library's Digital Unit, working on such diverse projects as Making of America II, Utopia, and Performing Arts in America, 1875–1923. Prior to that, she worked as an imaging specialist for University of Georgia's Library Photo Services. Additionally, Danielle Mericle has taught all levels of photography at a number of institutions, including Alfred University and Syracuse University; currently she works as an adjunct professor at Ithaca College. She holds a BFA and an MFA in Photography.

David Millman manages IT research & development in the libraries and in academic computing at Columbia.

Reagan Moore is Program Director of Data Intensive Computing Environments at the San Diego Supercomputer Center. Moore has a Ph.D. in plasma physics from the University of California, San Diego, (1978) and a B.S. in physics from the California Institute of Technology (1967). He coordinates research efforts on application of the Storage Resource Broker distributed data management system to digital libraries, data grids, and persistent archives for 13 research grants ranging from the NSF National Virtual Observatory, to the NSF National Science Digital Library persistent archive, to the DOE Particle Physics Data Grid, and the NARA Prototype Persistent Archive.

Steven Morris is Head of Digital Library Initiatives at NCSU Libraries, where he leads development of new digital services. He has worked at NCSU since 1997 and was previously Head of Data Services. Before joining NCSU, Steve was Technical Services Librarian at the Institute of Transportation Studies at University of California, Berkeley. He holds Bachelor's and Masters' degrees in Geography from CSU Chico in addition to an MLS from University of California, Berkeley. Steve is currently PI on a digital preservation project funded through the Library of Congress NDIIPP cooperative agreement program.

Roel Muñoz, Library Digital Projects, Princeton University

Leslie Myrick is a Digital Library Programmer/Analyst for the NYU Digital Library Team, where she specializes in XML/XSLT/METS development and database integration for digital project management. She is at present the Project Team Leader for the NYU arm of the California Digital Library-led "Web at Risk" DPP Partnership. Previously, as Technical Team Leader for the CRL Political Web Archiving Project, she explored the automated extraction of descriptive and technical metadata from archived web resources into METS-generating databases; scripted an XSLT-based METS website viewer; and prototyped METS Profiles for website objects. She holds academic degrees in Classical and Celtic Languages and Literatures.

O

John Ockerbloom is a digital library architect and planner for the University of Pennsylvania Library. He received a Ph.D. in computer science from Carnegie Mellon. His areas of interest include digital preservation, online learning systems and their relationships to digital repositories, distributed knowledge bases, and enhancing open access to information. Since the 1990s, he has worked on systems to aid in the documentation and use of digital formats, including his current work on TOM and Fred, which is funded by the Mellon Foundation. He has written papers and given presentations for such groups as the Digital Library Federation, the Coalition for Networked Information, RLG *DigiNews*, and the Mid-Atlantic Regional Archives Conference. He also edits The Online Books Page.

Ann Okerson has served as Associate University Librarian at Yale University, following 15 years of academic library and library management experience and in the commercial sector, and service as a senior program officer at the Association of Research Libraries. At Yale, she has organized the Northeast Research libraries consortium (NERL), a group of 26 large research libraries and 40 affiliates. NERL negotiates licenses for electronic information and engages in other forms of cooperative activity. Ms. Okerson serves as one of the active, founding spirits of the International Coalition of Library Consortia (ICOLC). Ms. Okerson's activities include numerous projects, publications, advisory boards, and speaking engagements around the world, as well as professional awards. In 1997, with funding from the Council on Library and Information Resources, she and the Yale Library staff mounted an online educational resource about library licensing of electronic content in a project called LIBLICENSE. Its extensive annotations and links are complemented by Liblicense-I, an international, moderated online discussion list frequented by 2700 librarians, publishers and attorneys. In 1998, she secured an additional grant and created Liblicense software that enables the users to generate a customized license using standard language options. In April 2001, the Digital Library Federation endorsed the Project's work on a Model Electronic License for academic research libraries. Other recent activities include being a Principal Investigator on several cutting-edge grants, including digital preservation and most recently a U.S. Department of Education Title VI grant for building a database of Middle East serials (\$450,000).

P

Joy Paulson is the Preservation Librarian at Mann Library, Cornell University. Besides being responsible for traditional preservation activities, she is involved in developing digital collections, such as CHLA (Core Historical Literature of Agriculture) and HEARTH (Home Economics Archive: Research, Tradition, and History). While she has focused mainly on digital imaging of historical print materials, Joy has recently also begun working on projects to convert analog audio recordings to digital. Before coming to Cornell in 1999, she was Head of Reformatting and Replacement Services in the Preservation Division at the University of Michigan where she participated in the Making of America projects.

R

Clay Redding is the Metadata Librarian at Princeton University.

Andy Revelle is the Library Coordinator at the Workshop in Political Theory and Policy Analysis at Indiana University as well as the Assistant Director of the Digital Library of the Commons. He earned his B.A. in Russian Language and Literature at the State University of New York at Albany in December, 1996. Andrew has an M.A. in Russian history (2000) and an MLS (2004), both from Indiana University, Bloomington.

Oya Rieger is the Associate Director of the Digital Library and Information Technologies division at the Cornell University Library. She manages the Library's Digital Media Group and coordinates the Digital Consulting and Production Services (<http://dcaps.library.cornell.edu>). Rieger also serves as the Coordinator of Distributed Learning and facilitates the development of new policies and programs in support of technology-mediated instruction. She has a diverse background in digital libraries, including coordinating the development of the USDA Economics and Statistics System, conducting research on imaging and digital preservation, managing the creation and maintenance of digital collections, and implementing usability studies. She serves on several national and international task forces, including co-chairing a NISO committee on technical metadata for image collections. She has a B.S. in Economics, an M.P.A. (Public Administration), and an M.S. in Information Systems.

Jenn Riley is the Metadata Librarian with the Indiana University Digital Library Program. In addition to METS Navigator, the subject of her joint DLF Spring Forum 2005 presentation, she currently works on a number of other digital library projects, including the NSF-funded Variations2 Digital Music Library, the NEH-funded Ethnomusicological Video for Instruction and Analysis, and the IMLS-funded IN Harmony Indiana Sheet Music collaborative project. She holds Bachelor's and Masters' degrees in music in addition to an MLS.

Tom Robertson earned his B.S. in Symbolic Systems from Stanford University. He is the Assistant Director and Technical Manager of the LOCKSS Program at the Stanford University Libraries. He has been with the LOCKSS Program since 2001. He is currently working to build a technical community around the LOCKSS software and to make LOCKSS work with existing technologies including OAI-PMH (Open Archives Initiative Protocol for Metadata Harvesting). Before joining the LOCKSS Program he worked at HighWire Press.

Richard Rodgers joined MIT's Digital Library Research Group in 2003 to work on DSpace—a digital repository software platform. His current project is a NARA-sponsored effort to examine the integration of DSpace with data grids, using SDSC's Storage Resource Broker. He is also involved in promoting an open source development community around DSpace. Prior to MIT, he worked in the commercial sector in a variety of software development engineering and managerial positions.

Gloria Rohmann is the Head of Media & Electronic Services at NYU Libraries, where she runs the Avery Fisher Center, one of the largest academic media centers, and coordinates end-user electronic services. She pioneered the use of streaming media services at NYU and established one of the first multimedia electronic reserve services. She spearheaded development of the first NYU Libraries web and several subsequent redesigns, coordinates remote authentication and OpenURL services. She is currently on sabbatical leave; as the second part of her research project (to be conducted in Fall 2005), she will be testing the efficacy of video "surrogates" (textual and non-textual representations of multimedia content) for video information retrieval.

S

Suzanne Samuel is Digital Preservation Project Manager at the California Digital Library. She manages the UC Libraries Digital Preservation Repository and is part of the "Web At Risk" team, a project funded by the Library of Congress's NDIIPP program. Prior to her work in digital preservation, Suzanne served as program coordinator for CDL's eScholarship program and managed the eScholarship Repository.

Dr. Robert Sanderson is currently a lecturer in Computer Science at the University of Liverpool. He completed his interdisciplinary Ph.D. in Information Science and Medieval French in 2003, and he has been working on the Cheshire Information Retrieval System in conjunction with the University of California, Berkeley since 2000. He is the Senior Editor for the SRW/U Information Retrieval protocol.

Mark Sandler is Collection Development Officer for the University of Michigan University Library, with general oversight responsibility for Library's print and electronic resources. In his current and prior roles at Michigan, Mark has benefited from close collaboration with his digital library colleagues, including those from Michigan's Digital Library Production Service and the Scholarly Publishing Office. In recent years he has been involved with the development of the Text Creation Partnership, housed at Michigan, which is creating tens of thousands of accurately keyboarded and encoded editions of early printed works from England and America.

David Seaman is Executive Director of the Digital Library Federation. Prior to that, he was the founding director of the Electronic Text Center at the University of Virginia Library (1992–2002), a humanities digital library of texts and images. His published work includes studies of Chaucer, and he speaks and writes frequently on various aspects of humanities computing.

Tsering Wangyal Shawa is a Geographic Information Systems Librarian at Princeton University. In this role, Mr. Shawa is responsible for the design, launching, and management of an automated digital cartographic and geospatial information service in a campus-wide networked environment. He has widespread experience in geospatial data selection, software and hardware and holds degrees in the areas of library science, education, geography, and cartography. He is an active member of the American Library Association Map and Geography Round Table (ALA MAGERT). He was elected the chair of ALA MAGERT for 2005–2006. Currently he is the chair of Geographic Technologies (GeoTech) Committee of ALA MAGERT, and is a representative of the American Library Association Map and Geography Round Table to the Cartographic Users Advisory Council (CUAC). He was selected by the National Research Council and the Federal Geographic Data Committee's Homeland Security Working Group to study and publish reports on "Licensing Geographic Data and Services" and "Guidelines for Providing Appropriate Access to Geospatial Data in Response to Security Concerns." Recently, he was selected as committee member of New Jersey Geospatial Data Sharing and Security Task Force. He was born in Tibet and has lived and taught geography and cartography to high school and undergraduate students in India, Nepal, Kenya, and Sudan.

Sarah Shreeves is the Project Coordinator for the IMLS Digital Collections and Content Project (DCC) based at the University of Illinois at Urbana-Champaign (UIUC). Her experience with the Open Archives Initiative Protocol for Metadata Harvesting is grounded in both the IMLS DCC project and the Mellon funded OAI Metadata Harvesting Project (2001–2002) at UIUC where she worked as a graduate assistant and project coordinator. Prior to coming to UIUC, Sarah worked for nine years in the MIT Libraries in Boston. She has a BA in Medieval Studies from Bryn Mawr College, an M.A. in Children's Literature from Simmons College, and an M.S. in Library and Information Science from UIUC.

Tito Sierra is a Digital Technologies Development Librarian at North Carolina State University Libraries. Before NC State, he worked as a Program Manager and Web Developer at Amazon.com. He has a BA in Government from Harvard University and a MS in Information Management from Syracuse University.

Katherine Skinner is the Scholarly Communications Analyst for the MetaScholar Initiative based at Emory University. She also currently serves as the Managing Editor of *Southern Spaces*, a peer-reviewed internet journal and scholarly forum: <http://www.southernspaces.org>. She holds a B.A. in Psychology from the University of North Carolina at Chapel Hill and is currently completing her Ph.D. in American Studies at Emory University (expected 2005).

MacKenzie Smith is the Associate Director for Technology at the MIT Libraries, where she oversees the Libraries' use of technology and its digital library research program. She is currently acting as the project director for DSpace, MIT's collaboration with Hewlett-Packard Labs to develop an open source digital repository for scholarly research material in digital formats. She was formerly the Digital Library Program Manager in the Harvard University Library's Office for Information Systems where she managed the design and implementation of the Library Digital Initiative, and she has also held positions in the library IT departments at Harvard and the University of Chicago. Her research interests are in applied technology for libraries and academia, and digital libraries and archives in particular.

T

Steve Toub is Web Design Manager at the University of California's California Digital Library, where he oversees the user experience design and web production teams. He has a B.A. in Theology from Georgetown University and an M.S. in Information from the University of Michigan.

W

John Walsh is the Associate Director for Projects and Services of the Indiana University Digital Library Program, where he coordinates the activities of the program and manages select projects and initiatives. He has been working with digital text and image collections and other digital library content creation and delivery for over ten years. His main area of expertise is in the development of XML full-text literary and humanities digital collections. Current projects include The Swinburne Project, a digital collection of the works of nineteenth-century British poet Algernon Charles Swinburne; the Chymistry of Isaac Newton, a digital edition of Isaac Newton's alchemical writings; and CBML, or Comic Book Markup Language, a TEI-based XML vocabulary for encoding comic books and graphic novels. He has a Ph.D. in English literature and is active in the digital humanities field, researching the application of XML-related technologies to the preservation, presentation, and analysis of literary texts and pop culture media.

Glen Worthy is head of the Humanities Digital Information Service in the Stanford University Libraries. In addition to managing the creation, licensing and delivery of digital full-text (SGML/XML) and image collections for humanities scholarship, he has also run a number of special projects, including an innovative program in the digital delivery of interlibrary loan monographs.

APPENDIX A: WHAT IS THE DLF?

What is the DLF? The Digital Library Federation is a leadership organization that pioneers the use of electronic-information technologies to extend library collections and services. Through its strategic partners and allies, DLF provides leadership to libraries broadly by

- identifying standards and “best practices” for digital collections and network access
- coordinating leading-edge research, development, and delivery
- incubating projects and services that libraries need but cannot develop individually

How does DLF operate? The DLF consists of an Executive Director, a small staff, an Executive Committee, and a Steering Committee on which each partner institution is represented. The bulk of its work on many initiatives is performed by working groups of its partners and others in the scholarly, library, and computing communities. DLF brings together experts from across disciplines and industries. The Council on Library and Information Resources (CLIR) is the administrative home to DLF.

DLF Partners contribute annually to the DLF's operating budget and pledge funds over five years to its Capital Fund. Each member institution has a seat on the Steering Committee and the responsibility to help direct the organization. The current partners are as follows:

British Library
California Digital Library
Carnegie Mellon University
Columbia University
Cornell University
Council on Library and Information Resources
Dartmouth College
Emory University
Harvard University
Indiana University
Johns Hopkins University
Library of Congress
Massachusetts Institute of Technology
National Archives and Records Administration
New York Public Library
New York University
North Carolina State University
Pennsylvania State University
Princeton University

APPENDIX A (continued)

Rice University
Stanford University
University of California, Berkeley
University of Chicago
University of Illinois at Urbana-Champaign
University of Michigan
University of Minnesota
University of Pennsylvania
University of Southern California
University of Tennessee
University of Texas at Austin
University of Virginia
University of Washington
Yale University

DLF Allies are organizations working in proximate areas. A senior officer from each allied organization sits on the DLF Steering Committee “with voice but without vote.”

Coalition for Networked Information (CNI)
Joint Information Systems Committee (JISC)
Los Alamos National Laboratory Research Library (LANL}
OCLC Online Computer Library Center, Inc. (OCLC)
RLG

DLF Staff maintain the Executive Director’s Office and are responsible for setting program goals and priorities, facilitating and supporting DLF initiatives, managing communications, and administering finances and the work of the governing Steering Committee. The central office staff includes:

Executive Director: David Seaman (dseaman@clir.org)
Program Associate: Barrie Howard (bhoward@clir.org)
Administrative Associate: Christie Hartmann (chartmann@clir.org)

What does DLF provide?

Leadership and support for new research, standards development, and project start-ups. Notable successes include OAI, METS, the Registry of Digital Masters, and the emerging Electronic Resources Management Initiative (ERMI).

APPENDIX A (continued)

A semi-annual forum to report on developments, standards, and projects, to plan new areas of collaborative endeavor, and to allow members to share experiences and find new colleagues.

E-mail listservs to exchange information, announce initiatives, identify resources, and stimulate discussion.

A Web site (<http://www.diglib.org/>) to provide public access to information about activities, resources, developments, and DLF itself.

Periodic newsletters and a pair of online databases to provide access to digital collections available from DLF members, and digital library documentation (policies, strategies, working papers, standards, and technical documentation).

Publications for reporting on research and conferences, the progress of initiatives, and on members' digital-library services, collections, projects, and challenges.

Multiple partnership opportunities, a sense of community and shared vision, and an opportunity to collaborate with a rich array of digital library practitioners and theorists.

For more information, contact:

David Seaman
Executive Director
The Digital Library Federation
Council on Library and Information Resources
1755 Massachusetts Avenue, NW, Suite 500
Washington, DC, 20036
dlf@clir.org
www.diglib.org

APPENDIX B: RECENT PUBLICATIONS

Electronic Resource Management: A Report of the DLF Initiative.

Timothy D. Jewell, Ivy Anderson, Adam Chandler, Sharon E. Farb, Kimberly Parker, Angela Riggio, and Nathan D. M. Robertson. Washington, DC: The Digital Library Federation, 2004. <http://www.diglib.org/pubs/dlfermi0408/>.

As libraries have worked to incorporate electronic resources into their collections, services, and operations, most have found their existing Integrated Library Systems to lack important functionality to support these new resources. An earlier study (Jewell 2001) determined that a number of libraries had begun developing local systems to overcome these shortcomings, and the DLF Electronic Resource Management Initiative (ERMI) was organized to aid the rapid development of such systems by providing a series of interrelated documents to define needs and to help establish data standards.

Digital Library Content and Course Management Systems: Issues of Interoperation.

A Report of a study group funded by the Andrew W. Mellon Foundation, and co-chaired by Dale Flecker, Associate Director for Planning & Systems, Harvard University Library, and Neil McLean, Director, IMS Australia. Washington, D.C.: The Digital Library Federation, 2004. <http://www.diglib.org/pubs/cmsdl0407/>.

An ad hoc group of digital librarians, course management system developers, and publishers met under the aegis of the Digital Library Federation to discuss the issues related to the use of digital library content in course management systems. The size, heterogeneity, and complexity of the current information landscape create enormous challenges for the interoperation of information repositories and systems that support course instruction. The group has created a checklist of things that operators of digital content repositories can do to help ameliorate the complexities of such interoperation. It also explored through the means of use cases the utility of tools which help instructors gather information resources from various distributed information repositories for teaching purposes, and created a model of how the group envisions the interaction of users, tools, and information repositories in the future.

APPENDIX B (continued)

A Survey of Digital Library Aggregation Services. Martha L. Brogan. Washington, DC: The Digital Library Federation, 2003.
<http://www.diglib.org/pubs/brogan/>.

This report, commissioned by the DLF, provides an overview of a diverse set of more than thirty digital library aggregation services, organizes them into functional clusters, and then evaluates them more fully from the perspective of an informed user. Most of the services under review rely wholly or partially on the Protocol for Metadata Harvesting of the Open Archives Initiative (OAI-PMH). Each service is annotated with its organizational affiliation, subject coverage, function, audience, status, and size. Critical issues surrounding each of these elements are presented in order to provide the reader with an appreciation of the nuances inherent in seemingly straightforward factual information, such as *audience* or *size*.

Archiving Electronic Journals: Research Funded by the Andrew W. Mellon Foundation. Edited, with an Introduction, by Linda Cantara. Washington, DC: The Digital Library Federation 2003.
<http://www.diglib.org/preserve/ejp.htm>.

Increasingly, scholarly journals are published electronically. What does it take to keep them accessible electronically in perpetuity? Can the property rights of publishers, the access responsibilities of libraries, and the reliability assurances that scholars need be reconciled in agreements to create archives of electronic journals? These series of studies from seven major libraries examine various aspects of the challenges of archiving electronic journal content.

An Introduction to Dimensions and Use of the Scholarly Information Environment. Amy Friedlander. Washington, DC: Council on Library and Information Resources and the Digital Library Federation, 2003.
<http://www.clir.org/pubs/reports/pub110/contents.html>.

APPENDIX B (continued)

659 Data Tables for *Dimensions and Use of the Scholarly Information Environment*. Washington, DC: Council on Library and Information Resources and the Digital Library Federation, 2003. <http://www.diglib.org/pubs/scholinfo/>.

We know from anecdotal evidence that users' expectations of libraries are changing as they find more information directly from the Web, but anecdotes are an insufficient basis for developing new library services. DLF and CLIR commissioned Outsell, Inc. to conduct a large-scale study to give us a much more reliable picture of user behaviors. Published here are the 659 data tables that record the responses to 35 groups of questions asked of 3,200 undergraduates, graduate students, and faculty members from academic institutions ranging from small liberal arts colleges to the largest public and private research universities. Accompanying them is a summary of the findings and 158 selected data tables; it should be viewed as an entry to the much larger data set of 659 data tables provided above.

***The Digital Library: A Biography*.** Daniel Greenstein & Suzanne E. Thorin. Washington, DC: Council on Library and Information Resources and the Digital Library Federation, 2002. <http://www.clir.org/pubs/abstract/pub109abst.html>.

Digital libraries, once project-based and largely autonomous efforts, are maturing. As individual programs have grown, each has developed its own personality, reflecting the circumstances of its creation and environment, and its leadership. This report from CLIR and the DLF draws on the results of a survey and case studies of DLF members to reveal how these influences have molded a range of organizational forms that we call the digital library. The report is written by Daniel Greenstein and Suzanne Thorin. Greenstein, formerly the director of the DLF, is now university librarian and director of the California Digital Library. Thorin is the dean of university libraries at Indiana University. *Section One* of the report examines three stages of digital library growth: the young digital library, the maturing digital library, and the adult digital library. *Section Two* of the report presents case studies of digital library development at six institutions.

For full lists of DLF and CLIR publications are available from <http://www.diglib.org/pubs/dlfpubs.htm>, and <http://www.clir.org/pubs/pubs.html>.

APPENDIX C: DLF-ANNOUNCE

DLF-ANNOUNCE: The Digital Library Federation Listserv

The Digital Library Federation (<http://www.diglib.org/>) is a consortium of thirty-eight libraries and related agencies that are pioneering the use of information technologies to extend, share, and manage their collections and services. Through its members, the DLF provides leadership for libraries broadly by:

- identifying standards and best practices for digital collections and networked access
- coordinating research and development in the use of information technology
- incubating projects and services that libraries need but cannot develop individually

The best way to keep up with the DLF's initiatives, Forums, calls for collaboration, and news is to subscribe to the DLF-ANNOUNCE listserv, available to all members and selected guests.

To subscribe:

1. Post an e-mail to the following address: listserv@www.diglib.org;
2. Leave the Subject line blank and remove your signature block from the body;
3. Type: subscribe dlf-announce [your first name] [your last name];
4. The DLF listserv will send a welcome message to you; and
5. You may leave the list at any time by following steps 1 through 3, however;
6. Substitute the word *signoff* for *subscribe*, mentioned in step 2.