# HARNESSING THE POWER OF GREY

# EIGHTH INTERNATIONAL CONFERENCE ON GREY LITERATURE



Lindy C. Boggs International Conference Center New Orleans, Louisiana USA 4-5 December 2006

# Conference **Program and Abstracts**

ISSN 1385-2308

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GreyNet	Grey Literature Network Service	Netherlands
INIST-CNRS	Institute for Scientific and Technical Information	France
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NYU	New York University School of Medicine	USA
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# **Program and Conference Bureau**





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## **GL8 Conference Program and Abstracts**

Eighth International Conference on Grey Literature: Harnessing the Power of Grey, 4-5 December 2006 / compiled by D.J. Farace and J. Frantzen. – Amsterdam: TextRelease, December 2006. – 96 p.; 30 cm. – Author Index. – (GL-conference series, ISSN 1385-2308; No. 8)

INIST-CNRS, NLE, and NYAM are corporate authors and associate members of GreyNet. This program book contains the schedule for the conference sessions and roundtables. The titles and abstracts of the papers as well as information on the authors are provided. When available, copies of the PowerPoints are also included in notepad format.

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## **Foreword**

# "Harnessing the Power of Grey"

The Eighth International Conference on Grey Literature offers a global platform situated and constructed for the R&D community. One that is focused on the state of the art in grey literature with applications and innovative uses in and for science and technology. The past three conferences in the GL-Series have brought to the forefront grey literature in networked environments, works-in-progress, and open access to resources. GL8 must now harness all of this in an effort to demonstrate the power of grey to other information professionals as well as policy and decision makers, funding bodies and new investors.

**GL8** provides a solid platform in a metropolitan city devastated by Hurricane Katrina. This city and costal region is now in the throws of reconstruction unprecedented in recent history. The grey literature community is offered a tiered challenge this December in New Orleans. They are asked to demonstrate the state of the art in their field. They are encouraged to incorporate new and emerging areas in grey S&T. And, they are charged to address echelons within their own organizations responsible for the appropriation of material and human resources.

"Harnessing the Power of Grey" is outlined here by four main themes dealing with

- Collection Development, Collection Policies, and Collection Rescue
- Metadata schemes, Repositories and Software, Standards and Quality Assessment
- Economic and Legal Aspects of Grey
- Mapping Grey Resources for Costal and Aquatic Environments

GL8 will provide the R&D community with a variety of settings in the presentation of their research results. These range from plenary sessions to roundtables. On behalf of the Program Committee, the Sessions Chairs, and Facilitators of the Roundtables, I take this opportunity to welcome your content contribution to this Eighth International Conference on Grey Literature.

*Dr. Dominic J. Farace*Grey Literature Network Service

Amsterdam, December 2006

# **GL8 Conference Sponsors**

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# **GL8 Program Committee Members and Organizations**



Lily Pregill and Lea Myohanen (Co-Chair)

The New York Academy of Medicine, USA



**Anne Asserson** 

euroCRIS, Current Research Information Systems, Norway



Marcus A. Banks

New York University School of Medicine, USA



**Deborah Cutler** 

Office of Scientific & Technical Information, Dept. of Energy USA



Dr. Dominic J. Farace

Grey Literature Network Service, Netherlands



**Julia Gelfand** 

University of California, Irvine, USA



Dr. Suguru Ishiguro

Japan Science and Technology Agency, Japan



**Daniela Luzi** 

National Research Council, Italy



**Dr. Joachim Schöpfel** 

Institut de l'Information Scientifique et Technique, France



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#### **DAY ONE**

#### 9:00-10:00 OPENING SESSION

Chair: Marcus A. Banks, New York University, School of Medicine (USA)

Welcome Address

Fredrick Barton, Provost and Vice Chancellor, University of New Orleans (USA)

Keynote Address

Bonnie C. Carroll, President Information International Associates Inc. (USA)

10.00-10:30 Morning Break

#### 10:30-12:00 SESSION ONE

COLLECTION DEVELOPMENT, COLLECTION POLICIES, AND COLLECTION RESCUE

Chair: Joachim Schöpfel, INIST-CNRS (France)

Elizabeth Newbold and Samantha Tillett, The British Library (United Kingdom)
 Past, present and future: the evolution of a collection – Grey Literature at the British Library

Cameron Esslemont, Global Library Services Network (Australia)
 Renee du Toit, Fred Hollows Foundation (New Zealand)
 Steve Baxendale, Pacific Open Learning Health Net (Fiji)
 Communities of Practice – A trigger for creating community focused digital libraries

Julia Gelfand, University of California, Irvine Libraries (USA)
 Grey Literature - Taxonomies and Structures for Collection Development

12.00-1:00 Lunch

#### 

#### METADATA SCHEMES, REPOSITORIES, SOFTWARE, AND STANDARDS

Chair: Gina R. Costello, Louisiana State University (United States)

Nikkia Anderson, Gail Hodge, and Andrea Japzon,
 Information International Associates, Inc., NASA Goddard Space Flight Center (USA)
 Harnessing NASA Goddard's Grey Literature: The Power of a Repository Framework

Keith G Jeffery, CCLRC Rutherford Appleton Laboratory (United Kingdom);
 Anne Asserson, University of Bergen (Norway)
 Hyperactive Grey Objects

Anthony Troman, The British Library, (United Kingdom)
 The UK Electronic Theses Online Service (EThOS)

Daniela Luzi and Fabrizio L. Ricci, IRPPS-CNR (Italy);
 Luca Dan Serbanati, Politehnica University (Romania)
 Metadata-based analysis to improve clinical trial exchange

2.30-3:00 Afternoon Break

## 3:00-4:30 PARALLEL SESSION I

Chair: Gretta Siegel,

Portland State University (USA)

Paola De Casto and Sandra Salinetti, Istituto
 Superiore di Sanita (Italy); Marcus A. Banks,
 NYU School of Medicine (USA)

Awareness and empowerment as a "must" for open access: sharing experiences in the creation and development of the "Nancy Style" to guarantee quality in document production and distribution

 Rosa Di Cesare, Roberta Ruggieri, and Loredana Cerbara – CNR-IRPPS (Italy)

Present and past experiences in GL management and research: A questionnaire survey on Italian participants to GL events

#### ROUNDTABLE 1

#### **Curriculum Development and Grey Literature**

Facilitator: Julia Gelfand,

University of California, Irvine, UCI (USA)

Targeted Groups: Instructors, Graduate Students,

Researchers, Field Workers, etc.

#### ROUNDTABLE 2

#### **Metadata Schemes and Repositories for GL**

Facilitator: Daniela Luzi, CNR-IRPPS (Italy)
Targeted Groups: Librarians, Documentalists,
Information Technicians, Researchers, etc.

# R O U N D T A B L E 3 Quality Assessment of Grey Literature

Facilitator: Paola De Castro, ISS (Italy)
Targeted Groups: Authors, Editors, Publishers, Etc.

#### 5.00-6:00 INAUGURAL RECEPTION

Rotunda (First floor Lobby of the Conference Center)



#### **DAY TWO**

#### 9:00-10:30 **SESSION THREE**

#### **ECONOMIC AND LEGAL ASPECTS OF GREY**

Chair: Anne Asserson, University of Bergen (Norway)

Marcus A. Banks, New York University, School of Medicine (USA)
 Cees de Blaaii, Library of Zeeland (Netherlands)

Implications of Copyright Evolution for the Future of Scholarly Communication and Grey Literature

• Christiane Stock, Joachim Schöpfel and Nathalie Henrot, INIST-CNRS (France)
From SIGLE to OpenSIGLE and beyond: An in-depth look at Resource Migration in European
Context

Dominic Farace and Jerry Frantzen, GreyNet (Netherlands);
 Joachim Schöpfel and Christiane Stock, INIST-CNRS (France)

Knowledge Generation in the Field of Grey Literature: A Review of Conference-based Research Results

10.30-11:00

Morning Break

#### 11:00-12:30 SESSION FOUR

#### MAPPING GREY RESOURCES FOR COSTAL AND AQUATIC ENVIRONMENTS

Chair: Deborah Cutler, Office of Scientific & Technical Information, OSTI; U.S. Dept of Energy

- Gina R. Costello, Louisiana State University (USA)
   Louisiana Coastal Wetlands and Louisiana Coastal Grey Literature: Vanishing Treasures
- Janet Webster, Hatfield Marine Science Center, Oregon State University (USA);
   Jean Collins and Patricia Merrikin, Food and Agriculture Organization of the United Nations (Italy)

Searching down the fisheries information web

- Todd Chavez, Pete Reehling, Anna Perrault, University of South Florida, USF Courtney Crummett, National Library of Medicine (USA)
   The Impact of Grey Literature in Advancing Global Karst Research
- Bertrum H. MacDonald, Ruth E. Cordes, & Peter G. Wells,
   Dalhousie University, School of Information Management & School for Resource and Environmental Studies (Canada)

Assessing the Diffusion and Impact of Grey Literature Published by International Intergovernmental Scientific Groups: The Case of the Gulf of Maine Council on the Marine Environment

12.30-1:30

Lunch

#### 1:30-3:00 PARALLEL SESSION II

Chair: Gretta Siegel,

Portland State University (USA)

Patricia Erwin, Institute for Information Infrastructure Protection (USA)

The Messy World of Grey Literature in Cyber Security

Debra Revere, Paul F. Bugni, and Sherrilynne S. Fuller, Center of Excellence

 in Public Health Informatics, School of Public Health & Community Medicine (USA)

> A Public Health Grey Literature Knowledge Management Repository

#### ROUNDTABLE 1

# **Curriculum Development and Grey Literature**

Facilitator: Julia Gelfand,

University of California, Irvine, UCI (USA)
Targeted Groups: Instructors, Graduate Students,

Researchers, Field Workers, etc.

#### ROUNDTABLE 2

#### **Metadata Schemes and Repositories for GL**

Facilitator: Daniela Luzi, CNR-IRPPS (Italy) Targeted Groups: Librarians, Documentalists, Information Technicians, Researchers, etc.

#### ROUNDTABLE 3

# **Quality Assessment of Grey Literature**

Facilitator: Paola De Castro, ISS (Italy)
Targeted Groups: Authors, Editors, Publishers, Etc.

## 3.30-4:30 CLOSING SESSION

#### REPORTS FROM THE ROUNDTABLES, EVALUATION, AND FAREWELL

Chair: Dominic J. Farace, Grey Literature Network Service (Netherlands)



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# **Keynote Address**

#### **Bonnie C. Carroll**

President Information International Associates Inc. (United States)



Bonnie C. Carroll, President of Information International Associates Inc., will present the Keynote Address at the Opening Session of the Eighth International Conference on Grey Literature. This year's conference is titled "Harnessing the Power of Grey"; and if there is one informational professional who can bring this to task, it is Bonnie Carroll. As President of IIA, she supports government and industry in managing information as a strategic resource.

She is Secretariat Director of CENDI, the federal scientific and technical information (STI) managers' group and Consultant to USGS, supporting the development of the National Biological Information Infrastructure and the OSTP Biodiversity Informatics Working Group to promote interagency coordination of national and international biodiversity informatics initiatives. For over 3 decades, she has participated in research and development projects including a major assessment of STI in the U.S. for the National Science Foundation; the development of a topography of STI systems for the Library of Congress; and the development of a system to provide input to the DOE's Energy Science and Technology Database. She helped develop a National Information Strategy for the Kingdom of Jordan and has done special studies for the International Atomic Energy Agency, UNESCO and the World Bank. Before starting IIa, Ms. Carroll worked at DOE's Office of Scientific and Technical Information as Director of Program Development and International Activities and Deputy and Acting Assistant Manager for Information Services. She worked with contract research companies, Oak Ridge National Laboratory, and Cornell University. She served as President of the American Society for Information Science & Technology and as Chair of the American Association for the Advancement of Science Section on Information, Computing and Communications. Ms. Carroll is currently the US National Representation to International CODATA under the auspices of the International Committee for Science (ICSU) and is on the editorial board for the journal Information Services and Use. She has an MS from Columbia University and a BA from Cornell University. Ms. Carroll has been active in grey literature research and management dating back to the early 1990s.



# Past, present and future: the evolution of a collection – Grey Literature at the British Library

#### **Elizabeth Newbold and Samantha Tillett**

The British Library (United Kingdom)

The British Library has been collecting grey literature since the 1950s primarily in the sciences and social sciences. Since this time the British Library has made considerable efforts to identify producers of material, develop collections and holdings and to make material accessible to researchers through onsite reading rooms and remotely through document supply services. The collection development objective has been to develop a collection of worthwhile grey literature. Material is sourced from many outlets and various means, for the last five decades this has concentrated on acquiring physical (predominantly paper and microfiche) copies of material. In a predominately paper-based world grey literature was difficult to obtain. However the proliferation of digital material and electronic access to material means that grey literature has become increasingly more accessible. These changes and an increasingly open access digital environment have demanded that the strategy for grey literature collecting at the British Library be revised.

Using our experiences of collection development and our unique position as the national library of the United Kingdom this paper will briefly outline the historical background to the collection, the recent past, the current collection strengths and future aims by addressing the following questions drawing on practical examples of how these challenges have been approached at the British Library:

- What does it mean to build a collection when material may not be physically held by a library?
- The drivers for collection development and the shift towards content development strategies in an increasingly digital environment.
- How to implement a content development strategy in a hybrid library.
- How to improve access to existing paper based grey literature collections and how to meet the changing needs of an increasingly sophisticated user.
- What are the resource, infrastructure and cost implications of these shifts and challenges?

The paper concludes with the notion that grey literature is becoming less grey and "traditional" literature is demonstrating grey characteristics in a digital environment, and that the distinctions between grey literature and conventionally published material are decreasing from a collection development standpoint.

## **AUTHOR INFORMATION**

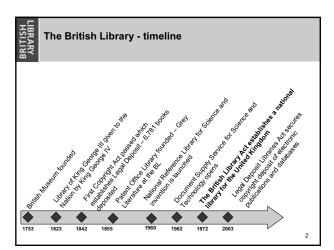
**Elizabeth Newbold** has a degree in applied sciences and a masters degree in information studies. She joined the British Library in October 2003 as the collection manger for science, technology and medicine. This is a varied role covering all aspects of collection management including collection development for grey literature across scientific disciplines. Prior to joining the British Library, Elizabeth has worked in a number of organisations and specialist information units, providing information research services to researchers in both the public and private sector. Her interest in grey literature has developed over the years from working in organisations that were both consumers and producers of grey literature.

**Samantha Tillett** has an MBA from the Open University. She joined The British Library in 1989, working for the Document Supply Centre in document retrieval. During her time at The British Library she has worked with grey literature for many years, cataloguing and providing access to conference proceedings, British PhD theses and British grey literature for SIGLE. She is currently a Product Development Manager at The British Library focusing mainly on e content.

# LIBRAR HSILIN

# Past, present and future: the evolution of a collection – Grey Literature at the British Library

Elizabeth Newbold and Samantha Tillett GL8 New Orleans, December 2006

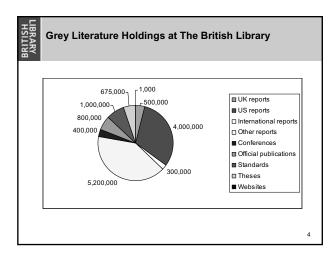


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#### **About The British Library**

The British Library is the national library of the United Kingdom and one of the world's greatest libraries.

- We receive a copy of every publication produced in the UK and Ireland (Legal Deposit)
- The collection includes 150 million items, in most known languages and across all subjects
- 3 million new items are incorporated every year mostly books and journals purchased, deposit arrangements, donations and exchange services
- We house manuscripts, maps, newspapers, magazines, prints and drawings, music scores, and patents
- These require over 625 km of shelves, and grow 12km every year
- If you see 5 items each day, it would take you 80,000 years to see the whole of the collection
- Over 16,000 people use the collections each day
- We operate the world's largest document delivery service providing millions of items a year to customers all over the world



# Challenges

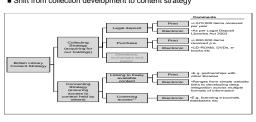
- "Flight to the web" print to digital transition
   predicted that 40% of UK research data will only be available in electronic form by 2020
- E publishing is grey still grey?
  - what is the value of peer review over non-peer reviewed research
  - what does grey literature mean to researchers
  - · presents new challenges for librarians

#### Collection development policies

- not just "literature" data sets, evidence based research
- · connecting verses collecting

#### Addressing the Challenges - Collection Development

- 2005/2006 content development strategy for the British Library developed
- Primary focus disciplined based approach but also looked at special formats including grey literature
- Shift from collection development to content strategy



# Addressing the Challenges – Collection Management Costs

The British Library and UCL investigated the life cycle of the collection and preservation of digital material

- established individual stages in the cycle
- costed individual stages
- financial commitment of collecting digital materials over the long term
- Life Cycle Costing Model L<sub>T</sub>= Aq + I<sub>T</sub> + M<sub>T</sub> + Ac<sub>T</sub> + S<sub>T</sub> + P<sub>T</sub>

Life Project 2 – the next stage is to test the model

- sensitivity analysis
- where are the costs incurred over time
- what are the financial risks over time

#### Addressing the Challenges – Collection Management Storage

The British Library Digital Object Management Programme

#### Mission

The DOM Programme's mission is to enable the United Kingdom to preserve and use its digital output forever.

#### Vision

Our vision is to create a management system for digital objects that will

- store and preserve any type of digital material in perpetuity
- provide access to this material to users with appropriate permissions
- ensure that the material is easy to find
- ensure that users can view the material with contemporary applications
- ensure that users can, where possible, experience material with the original look-and-feel



#### Addressing the Challenges – Some Examples Websites

- Web Archiving
- UK Web Archiving Consortium (UKWAC)

  Guide Consortium (UKWAC)

  Guide
  - UK domain only at present

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# Addressing the Challenges – Some Examples Non-Print Materials

- Voluntary Deposit of Electronic Publications (VDEP) non-print material
  - Offline (e.g. cd-rom, dvd) covered by voluntary code of practice
     Catalogued on the BL Integrated catalogue
     Access to the original for onsite reference
     Online material

  - Currently opt-in by certain publishers
     No formal understandings or agreements on access developed

  - No format understandings of agreements on access developed
     Ongoing challenges
     Only a tiny proportion of potential material is collected
     Monograph titles 2005/06: 1500 online; 850 offline; 600 downloaded
     Territoriality only looking at UK but what does this mean in an electronic environment
     Variable relevance and quality

10



#### Addressing the Challenges – the Future

Is the world becoming more or less grey - is there a distinction, and if there is, does is the world becoming more or less grey it matter?

If it does matter – who might it matter to:

Librarians

Researchers

Producers

- Content usersSearch engines.....?

It is still early days - much of the work is theoretical - still to discover:

- Long term costs
- Long term costs
   What content will have value in the future?
   What are the risks around obsolescence?
   What is the role of libraries?
   Who should be involved:
   Producers?
   Publishers?
- - Technical partners?Researchers?

# For Further Information

- ■British Library website http://www.bl.uk
- British Library Annual Report and Accounts 2005/06 http://www.bl.uk/about/annual/2005to2006/introduction.html
- Redefining the Library: The British Library's Strategy 2005 2008 http://www.bl.uk/about/strategy.html
- The British Library's Content Strategy http://www.bl.uk/contentstrategy
- JISC/BL Life Cycle Information for E publishing <a href="http://eprints.ucl.ac.uk/archive/00001855/01/LifeProjSummary.pdf">http://eprints.ucl.ac.uk/archive/00001855/01/LifeProjSummary.pdf</a>
- ■Contact details:
  - Elizabeth Newbold: elizabeth.newbold@bl.uk
     Samantha Tillett: samantha.tillett@bl.uk



# Communities of Practice – A trigger for creating community focused digital libraries

#### **Cameron Esslemont**

Global Library Services Network (Australia)

#### Renee du Toit

Fred Hollows Foundation (New Zealand)

#### **Steve Baxendale**

Pacific Open Learning Health Net (Fiji)

#### **Background**

There is no one fits all solution for the effective identification and distribution of relevant health information to remote communities. A complex mix of issues related to content, connectivity, cost, culture, copyright and language have to be considered, and the most appropriate option found for the particular community. Further the integration of local and external material must be as seamless as possible to ensure local acceptance and to support the goal of south-south, south-north sharing.

#### Problem

With the opening of the Pacific Eye Institute in the Solomon Islands it is important to develop a scaleable and sustainable infrastructure for the creation, integration, deployment and management of relevant health care information to support the different knowledge domains of professional, health care worker, educator and consumer.

#### **Research Method**

A trial project was undertaken to assess the feasibility of the creation of an Electronic Resource Centre to support the deployment and ongoing management of digital libraries to remote communities for offline use.

- The first stage involved staff training in a technology infrastructure, theoretical concepts of digital libraries and the process of local support for building digital libraries from local "grey" material. Thereafter a "Community of Practice" responsible for broader collection management was established in order to integrate additional qualified material. This involved collection management policies, copyright management (Creative Commons), peer group management and centralised cataloguing. A virtual environment was established to link the professionals, the health consumers and librarians. Various "last mile" deployment solutions were trialled, ensuring the material could be widely distributed and used effectively by the health care worker at the patient interface.
- The second stage of the project was the assessment/investigation of the local issues related to collection management and the creation and deployment of the digital libraries and their integration with co-located Document Distribution Centres.
- The final phase will be an assessment by the major stake holders as to their role, the support gained from the infrastructure, internal costings, scalebility and recommendations for a model supporting broader deployment.

#### Costs

The business model for broader deployment is under consideration in Phase 3

The paper will present the findings to date of this trial and make recommendations for a general model for the wider use of Communities of Practice in support of collection management for Electronic Resource Centres - digital library distribution nodes for remote communities throughout the Pacific Region.

## **AUTHOR INFORMATION**

**Cameron Esslemont** is the founding director of Global Library Services Network (GLSN) a managed infrastructure provider for the creation, deployment and management of digital libraries / collections for remote communities. He is a civil engineer by profession and spent his early years in the UK armed forces specialising in photogrammetry and landsat imagery. During this period he spent considerable time in the developing world working closely with local organisations. On leaving the army he emigrated to Australia and has worked in many fields moving gradually towards specialising in the logistics of information. Over the past three years whilst developing GLSN he has been involved with staff at The University of Sydney testing a Personal Learning Centre and integrating it with mechanisms to support meaningful learning. Has a particular interest in the measurement of the use of information assets by users and in the logistics challenges related to addressing "digital inclusion" and sustainable last mile deployment strategies.



# Grey Literature: Taxonomies and Structures for Collection Development

#### **Julia Gelfand**

University of California, Irvine Libraries (United States)

Libraries worldwide have not picked up the pace of addressing where Grey Literature fits in collection policies. This remains rather curious due to the skyrocketing prices of traditional books, journals, databases, and other information resources, and trends to serialize and promote access in perpetuity. Most collection development policies only address resources for which payment has been made, where formal acquisitions or licensing practices are observed. Due to more interest and a commitment to Open Access initiatives and electronic publishing, Grey Literature does not appear to have a more stable and comfortable home in libraries, although it has demonstrated increasingly how it is being cited more seriously and frequently. Often, content that is openly available on the Internet and for which there is no required payment finds no bibliographic control or metadata associated with it that begs for description and order. Thus, this paper will examine what kind of alternatives there are for discovering, cataloging and processing the immense grey literature so that additional value and access is guaranteed giving it credibility in a collection development policy.

Building on the celebrated works of Edward Tufte, *Envisioning Information* (1990) and Davenport and Prusak's, *Information Ecology: Mastering the Information and Knowledge Environment* (2003), the core component of information architecture suggests how taxonomies are a foundation for visual design of information navigation and structurally define relationships of different elements in a cohesive package. Several key examples of Grey Literature in the Social Sciences, Arts and Scientific disciplines will be used to demonstrate how a taxonomy contributes to the outline of most Collection Development policies and establishes relationships by format, organization, finding tools, and access points. Policies are what drive and determine what libraries acquire and license, point to and promote in their catalogs by an increasingly important web presence. Grey Literature needs to share more equal billing in terms of discovery and retention and unless it is included in the formal collection development policies the added value of incorporation is weakened. If information usage patterns are indeed more reflective of information architecture, then the taxonomy structure should encourage collection development policies to entertain more Grey Literature content.

This paper will consider how libraries would benefit by such recommendations and become more relevant to its users. Illustrated comparisons of what new roles a library would experience with more Grey Literature referenced and alluded to in its collection policy will enhance the role of bibliographers and invite more widespread global content with less financial demand than other information products.

# **AUTHOR INFORMATION**

**Julia Gelfand** has been a librarian with the University of California, Irvine Libraries since 1981. She has been tracking the grey literature movement since the late 1980s and has participated in all of the previous GL conferences and has published and presented widely on different topics in grey literature. Her particular interests are in scholarly communications, electronic publishing, collection development, bibliography of science and technology, and she thinks that with more emphasis on networking and digital libraries, Grey Literature has a very interesting future. She is currently the chair of the IFLA Science & Technology Section and vice-chair/chair-elect of the ALA ACRL Science & Technology Section.



# Harnessing NASA Goddard's Grey Literature: The Power of a Repository Framework

#### Nikkia Anderson, Gail Hodge, and Andrea Japzon

Information International Associates, Inc. NASA Goddard Space Flight Center Library (United States)

The NASA Goddard Library collaborated with several projects on-center to create a framework for the development of web-accessible repositories of grey literature. Tools and methods for collaboration were developed through a series of prototypes with a variety of Goddard projects based on the Library's Digital Asset System (DAS), a repository to describe and provide access to project information including images, videos, web sites, and technical reports.

Metadata is a key component of this framework. The Goddard Core Metadata Element Set, an extension of the Dublin Core, is used to describe these resources. Additional elements include project name, project code and instrument name. A taxonomy of controlled subject terms has been developed which can also be extended and tailored for each project. This provides consistent searching across the DAS, while at the same time enhancing the search precision for each project collection when it is accessed as a separate collection in the DAS or through its own web site.

To-date, the Library has used the framework with a number of different projects. A commemorative CD with key documents, web sites and oral histories by the project managers was developed for the Hitchhiker Project as it was being disbanded. Metadata from the Swift project library was transformed and made more accessible with pointers to documents in the Swift project library. The Landsat Legacy Project, a joint project with the Landsat Program Science Office, the US Geological Survey, and the NASA History Office, is creating an archive of essential technical-, policy-, and science-related documentation. To gather significant documentation from the over 35-year-multi-agency history of Landsat, the Library added components for external submission of documents for potential inclusion in the new repository and for scanning paper documents. In addition, oral histories are being captured from Landsat veterans.

Through these projects, the NASA Goddard Library has developed a methodology for collaborating with different kinds of projects. It involves procedures for analyzing the needs of a project and determining how the metadata, taxonomy, and interface might need to change, while remaining consistent with the DAS framework for cross-repository access.

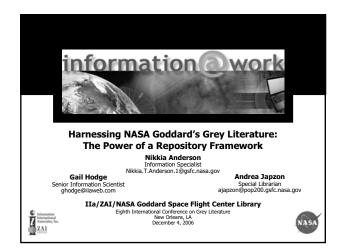
Ultimately, the Library plans to extend the effort to other projects. (At any given point in time, Goddard has more than 30 projects in various stages of completion.) As part of Goddard's knowledge management activities, the DAS provides a framework for sharing grey literature that would otherwise be scattered across independent project libraries. Benefits include the ability to more quickly find and reuse information to decrease project costs, enhance safety and promote innovation.

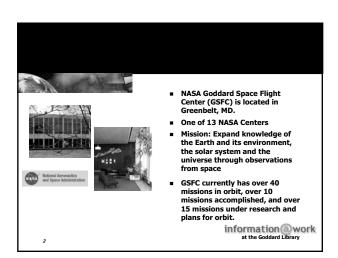
## **AUTHOR INFORMATION**

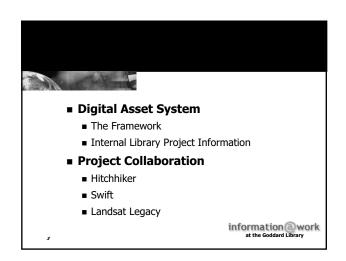
**Nikkia Anderson** is an Information Specialist for Information International Associates, Inc. (IIa). She earned a BS in Computer Science from Bowie State University in Bowie, MD in 2003 and is currently pursuing a MLIS at Drexel University. She is experienced in metadata, taxonomy, and repository development. At the NASA Goddard Space Flight Center Library, she manages some digital collections and coordinates on various knowledge management initiatives which involve bringing some grey areas to light. Other areas of interest include scanning, optical character recognition, and preservation.

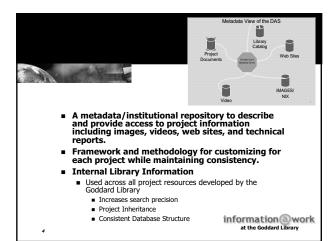
**Andrea Japzon** is currently pursuing a doctoral degree in information science at Drexel University. She has a BA in English from the University of Florida, MLS from Florida State University and MA in geography from Hunter College of the City University of New York. She has worked for The New York Public Library, the Hunter College Library, the Enoch Pratt Free Library, and the NASA Goddard Space Flight Center Library. She was the recipient of the Society of Woman Geographers fellowship for studies in urban geography and her current studies are supported by an IMLS fellowship. Recent publications include "A neighborhood analysis of public library use in New York city," in Library Quarterly. She has been an active member of ALA for over 12 years and positions held include Chair of the Notable Books Council.

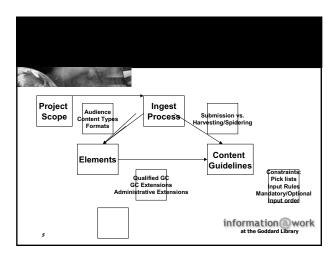
**Gail Hodge**, IIa Senior Information Scientist, is an authority in the field of information science, with an emphasis on metadata, taxonomy, and thesaurus development. For over 25 years, she has helped organizations develop systems for capturing metadata and for using classification schemes, thesauri, and other knowledge organization sources in a variety of fields, including the environment, life sciences, and aerospace.

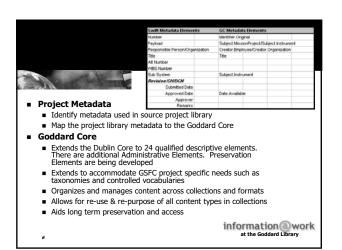


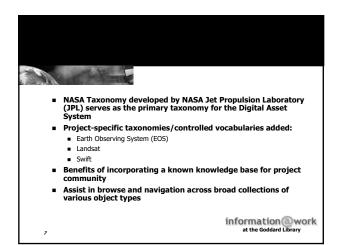




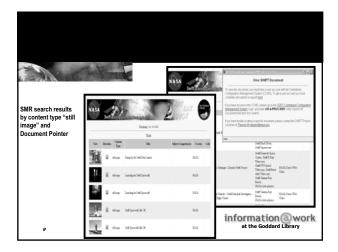




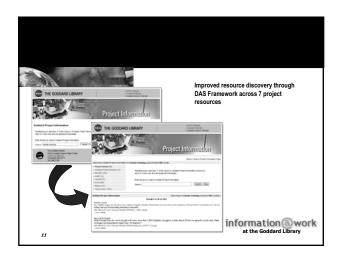


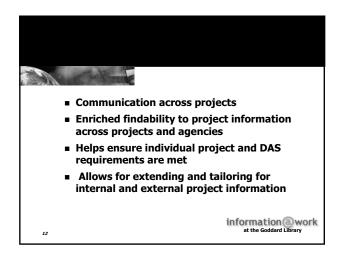














# **Hyperactive Grey Objects**

#### **Keith G Jeffery**

CCLRC Rutherford Appleton Laboratory

(United Kingdom)

#### **Anne Asserson**

University of Bergen (Norway)

Previous papers on Grey literature by the authors have described:

- (1) the need for formal metadata to allow machine understanding and therefore scalable operations;
- (2) the enhancement of repositories of grey (and other) e-publications by linking with CRIS (Current Research Information Systems);
- (3) the use of the research process to collect metadata incrementally reducing the threshold barrier for end-users and improving quality in an ambient GRIDs environment. This paper takes the development one step further and proposes 'intelligent' grey objects.

#### The hypothesis is in 2 parts:

- (1) that the use of passive catalogs of metadata does not scale (a) in a highly distributed environment with millions of nodes and (b) with vastly increased volumes of R&D output grey publications with associated metadata;
- (2) that a new paradigm is required that (a) integrates grey with white literature and other R&D outputs such as software, data, products and patents (b) in a self-managing, self-optimising way and that this paradigm manages automatically curation, provenance digital rights, trust, security and privacy.

Concerning (1) existing repositories provide catalogs; harvesting takes increasing time ensuring non-currency. The end-user expends much manual effort / intelligence to utilise the results. The elapsed time of (i) the network (ii) the centralised (or centrally controlled distributed) catalog server searches (iii) end-user intervention becomes unacceptable.

Concerning (2) there is no paradigm currently known to the authors that satisfies the requirement. Our proposal is outlined below.

Hyperactive combines both hyperlinking and active properties of a (grey) object. Hyperlinking implies multimedia components linked to form the object and also external links to other resources. The term active implies that objects do not lie passively in a repository to be retrieved by end-users. They 'get a life' and the object moves through the network knowing where it is going.

A hyperactive grey object is wrapped by its (incrementally recorded) formal metadata and an associated (software) agent. It moves through process steps such as initial concept, authoring, reviewing and depositing in a repository. The workflow is based on the rules and information in the corporate data repository with which the agent interacts. Once the object is deposited, the agent associated with it actively pushes the object to the end-users (or systems) whose metadata indicate interest or an obligation in a workflowed process. The agents check the object and user (or system) metadata for rights, privacy, security parameters and for any charges and assure compatibility.

Alternatively the object can be found passively by end-user or system agents.

The object can also associate itself with other objects forming relationships utilising metadata or content. Declared relationships include references and citations; workflowed relationships include versions and also links to corporate information and research datasets and software; inferenced relationships are discovered relationships such as between documents by different authors developed from an earlier idea of a third author.

Components of this paradigm have been implemented to some extent. The challenge is implementing – respecting part two of the hypothesis - the integration architecture.

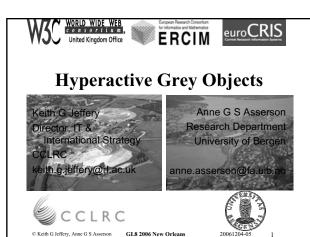
This surely is harnessing the power of grey.



# **AUTHOR INFORMATION**

**Keith Jeffery** is currently Director, IT and International Strategy of CCLRC (Council for the Central Laboratory of the Research Councils), based at Rutherford Appleton Laboratory in UK. This involves coordinating IT development across multiple research fields both within the organisation and outside and also coordinating the international relations of the organisation with other similar organisations. Previously he led the Business and Information Technology Department with a staff of 140 supporting over 360000 users, developing software for business and science and doing leading edge R&D. Keith is a Fellow of both the Geological Society of London and the British Computer Society. He is a Chartered Engineer and Chartered IT Professional. He is an Honorary Fellow of the Irish Computer Society. He is president of euroCRIS (www.eurocris.org) and of ERCIM (www.ercim.org) and holds three honorary professorships. Keith has extensive publications and has served on numerous programme committees and research grant review panels. He has particular interests in 'the research process' and the IT support of relationships between hypotheses, experiments, primary data and publications based on research in information systems, knowledge-based systems and metadata.

**Anne Asserson** holds a Cand. polit. with a Masters in Information Science from the University of Bergen, UiB. She has been working with Research Documentation, and has participated in substantial parts of CRIS (Current Research Information Systems) developmental work, locally and nationally. Anne led the establishing and implementing а Research Documentation http://www.ub.uib.no/fdok/sok/, at UiB. For several years she was the chairwoman of the Steering Group of the national CRIS system and project secretary of a National system for academic administration. Anne is presently representing UiB in the national group that is implementing a new national research documentation system, FRIDA. She also participated in The CORDIS funded European-wide project on " Best Practice" 1996 and was a member of the working group set up 1997 that produced the report CERIF2000 Guidelines (1999) www.cordis.lu/cerif, coordinated by the DGXIII-D4. euroCRIS www.eurocris.org is now the custodian of the CERIF model and Anne is a member of the euroCRIS Board. She has published in the areas of CRIS and Grey Literature and served on programme committees for the GL conference series.



# Background

- Previous papers on Grey literature by the authors (in the GL Conference Series) have described
  - the need for formal metadata to allow machine understanding and therefore scalable operations;
  - the enhancement of repositories of grey (and other) e-publications by linking with CRIS (Current Research Information Systems);
  - the use of the research process to collect metadata incrementally reducing the threshold barrier for end-users and improving quality in an ambient GRIDs environment.
- This paper takes the development one step further and proposes 'intelligent' grey objects.

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# Hypothesis

- The hypothesis is in 2 parts:
  - that the use of passive catalogs of metadata does not scale
    - in a highly distributed environment with millions of nodes
    - with vastly increased volumes of R&D output grey publications with associated metadata;
  - that a new paradigm is required that
    - integrates grey with white literature and other R&D outputs such as software, data, products and patents
    - in a self-managing, self-optimising way and that this paradigm manages automatically curation, provenance digital rights, trust, security and privacy.

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## State of the Art

- · Concerning the problem of scaling
  - Existing repositories catalogs cost of input / update;
  - Harvesting takes increasing time ensuring non-currency
  - To obtain and utilise results the end-user expends much manual effort / intelligence
  - The elapsed time of
    - · the network
    - the centralised (or centrally controlled distributed) catalog server searches
    - · end-user intervention
    - becomes unacceptable
- Concerning the proposed solution
  - there is no paradigm currently known to the authors that satisfies the requirement - hence our proposal is developed.

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## The Notion

- Hyperactive combines both
- hyperlinkingactive properties of a (grey) object.
- Hyperlinking implies multimedia components linked to form the object and also external links to other resources
- The term active implies that objects do not (only) lie passively in a repository to be retrieved by end–users. They 'get a life' and the object moves through the network knowing where it is going.

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#### How it Works

- A hyperactive grey object is wrapped by formal metadata, active rules, relationships, associated (software) agent.
- It moves through process steps
- The workflow is based on the rules and information in the CDR (Corporate Data Repository) and the active rules within the encapsulated grey object
- Once the object is deposited, the agent associated with it actively checks and builds the relationships
- On publication: the agent pushes the object to the end-users (or systems)
- The agents check the object and user (or system) restrictive metadata
- Alternatively the object can be found passively by end-user or system agents using its descriptive metadata. (again the agents check the restrictive metadata)

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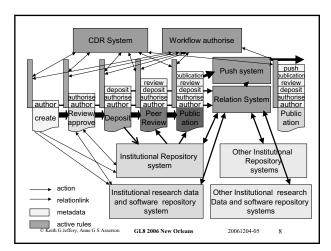
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# Wider Context

- · The object can also associate itself with other objects forming relationships utilising metadata or content.
  - Declared relationships include references and citations;
  - Workflowed relationships include versions and also links to corporate information and research datasets and software;
  - Inferenced relationships are discovered relationships such as between documents by different authors developed from an earlier idea of a third author.

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#### **Current State**

- · Components of this paradigm have been implemented to some extent
  - Formalised metadata (and links to CRIS);
  - Active rules
  - Workflow using CDR;
  - Hyperlinking of Objects;
  - Inferencing (usually for plagiarism);
  - Agents
  - Self-\* properties
- · Much of it in a GRIDs environment

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- 1. Minimum effort by the end-user
- 2. Maximum input by system
- 3. Maximum use of information by system
  - a) To manage workflow
  - b) To manage relationships
  - c) To generate relationships
  - d) To assist retrieval
- 4. Scalable

## This surely is

harnessing the power of grey.

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# Conclusion







# The UK Electronic Theses On-line Service (EThOS)

#### **Anthony Troman**

The British Library (United Kingdom)

The purpose of the EThOS project was to deliver a fully operational, easily scaleable and financially viable prototype UK e-thesis online service to enable end-users, via one single web interface, to access the full text, in secure format, of electronically stored theses after selection from a UK Database of Theses. The service enables HE institutions, in partnership with the British Library, to ensure a much higher level of national and international visibility for the UK postgraduate research output, as well as its preservation in perpetuity.

This presentation will demonstrate how the project achieved its aims including:

- The development and implementation of a hybrid IT infrastructure combining: (a) a central host, based at the British Library, for HEIs wishing to have their theses stored centrally, whether for dissemination or preservation purposes, or both; (b) the necessary interfaces for the British Library to harvest data and metadata for the online supply of theses stored in institutional or consortial repositories only; (c) a single search interface of all e-theses repositories enabling users to search all theses indexed in EThOS and to access all electronically stored theses from one point of access.
- 2. The development of standards for metadata and data transfer.
- 3. A digitisation programme of 1100 theses from print and microfilm to investigate options and standards for digitising the 500,000 UK 'physical' theses currently in existence.
- 4. The development and integration of procedures to address all aspects of IPR, royalties and permissions related to theses, including digital rights management.
- 5. The development of a viable and sustainable business model based on cost-recovery for the service provider that meets the aspiration for the service to be free at the point of use while also sustaining a digitisation programme resulting in all UK theses being made available for electronic storage and delivery.
- 6. The development of an Institutional Toolkit to aid UK Higher Education Institutions in the set-up of their own repository and the practical means of enabling the appropriate change within the Institution to support the submission of e-theses.

Practical solutions to the problems encountered in making a large, distributed physical collection available on-line within reasonable timescales and cost while also meeting the aspirations of UK Higher Education and the 'google generation' of users will be demonstrated.

# **AUTHOR INFORMATION**

**Anthony Troman** has worked at The British Library for 13 years. He is a Project Manager and Systems Analyst and has designed and developed several library systems for the BL including UKMARC acquisitions, cataloguing and retrieval systems. He is currently Product Development Manager and was instrumental in the development of the EThOS (Electronic Theses Online Service) project from proposal through specification, development and delivery. He managed three of the eight work packages including development of the central service, the business model and the digitisation strand. He is currently working on the development of services to help adapt and keep relevant British library services into the future.

The UK Electronic Theses On-line Service (EThOS)

Anthony Troman Product Development Manager anthony.troman@bl.uk

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#### Thesis supply in the UK

- BL service since early '80s
- Vast majority of UK HE involved
- 500,000 paper theses of which 200,000 held by BL on microfilm. Small number of e-theses held on institutional repositories

But, despite dedicated staff:

- Out of date supply formats (paper or microfilm sales & loans)
- Long supply times
- Heavily administrative at BL & Institution expensive

Meaning:

■ Serious decline in use of the service = lack of awareness of UK research output

## The EThOS Project

- UK Joint Information Systems Committee (JISC) funded 3 thesis projects ending late 2004 (or thereabouts)
- Made further funding available to take findings and develop a UK thesis service
- EThOS partnership selected to develop service
- Project Aims:
  - A prototype for a 'one-stop shop' to all 500,000 UK theses dating from 1700s
  - A business model allowing Open Access to all theses, yet financially viable and sustainable
  - Timescale: January 2005 September 2006









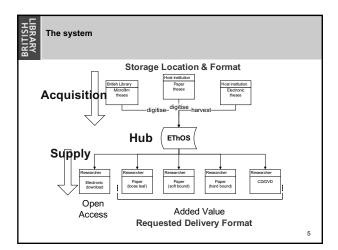


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EThOS Project Scope and S			
Workpackage	Lead Institution		
Project Management	Glasgow		
2. Central Hub Development	British Library		
3. Interfaces	Cranfield		
4. Digitisation	British Library		
5. Intellectual Property Rights	Edinburgh		
6. Institution Toolkit	Robert Gordon University		
7. Business Model	Glasgow/British Library		
8. Dissemination & advocacy	Birmingham/Warwick		



# HSILING

# E-thesis data transfer & metadata standards

- Principle: data transfer standards are well defined and simple and the supplying institution must meet them to take part in the service
- Metadata is well-contained with a small number of mandatory fields
- OAI-PMH used for transfer of both metadata and content simple, pragmatic, practical for version 1
- Single point of collection at Institution
- Tools developed for Open Source repository software (Dspace, Eprints, Fedora)
- This method means that regardless of how and where e-theses are stored within the institution, as long as they are 'prepared' to meet the standard and are located at 1 address for collection, the service can find and download them.
- Allows flexibility within the institution and flexibility in choice of repository supplier (i.e. as long as the supplier meets the simple standard, the institution can participate)

# LIBRAR HSILIN

#### Why digitise?

- Small number of e-theses at present (<500), but growing. 500,000 paper theses of which 200,000 held on microfilm at BL.
- Institutions will continue to produce paper theses for years to come - until they all have Institutional Repositories and esubmission procedures.
- Service needs to offer content of paper theses to attract Researchers and encourage e-submission (the 'critical mass')
- 80% of theses ordered via BL are from last 13 years peak usage is 2 year old theses. Demand continues for information held on paper theses

7

# HSILING HSILING

#### Digitisation programme

- Considerations when digitising:
  - Paper theses sit on Institution shelves so service must manage a geographically disparate collection
  - Estimate 25,000 theses will need to be digitised per annum
  - Central digitisation service required manual operation so quite expensive
- Theses only need to be digitised once then they are always available for immediate download.
- Large scale digitisation is only required until the bulk of theses wanted by researchers are digitised – then the operation is scaled down.
- Biggest risk to the service is if demand outstrips digitisation capacity, which is most likely in the early days (smallest number of theses in e-format), so controlled growth through appropriate marketing is required

8

# LIBRAR

#### **Business Model features**

- Cost recovery service : All funds raised will be spent on the service and digitisation of UK Theses
- Digitisation of each individual thesis is paid for, thereafter thesis is available free to download for all subsequent Researchers
- HEIs can choose to offer content (including digitised theses) via a choice of relationship types
  - Open Access Sponsor advances funds annually to support the system and receives an equivalent value of digitised theses (including those of it's collection ordered 'on-demand'
  - Open Access Associate pays on a piecemeal basis
  - Other First Researcher ordering pays for digitisation
- Any thesis supplied to EThOS in e-format will be supplied free for download (Open Access) to a Researcher
- Added value services (printing, binding, supply on CD/DVD) will be offered for delivery and will be chargeable to the Researcher

#### Intellectual Property Rights

- Within the meaning of the UK Copyright, Designs and Patents Act (CDPA), 1988, (s. 175), a British thesis is an unpublished work, and is protected under the act meaning that re-publication of any significant part of a thesis by a third party (EThOS) without the copyright owner's consent is a breach of copyright
- Current system (author "opts-in" to allow supply i.e. gives permission) is time consuming and administrative (i.e. expensive) involving forms from authors and from researchers legal recommendation is that this continues, but that won't allow us to meet the expectations of a modern e-commerce aware Researcher
- For future submissions (paper or e.) this can be streamlined using workflow and technology (on-line registration and licence agreement) but for existing theses (500,000) seeking permissions to digitise would be difficult and very expensive
- Proposal:

  - Adopt an "opt-out" solution but:

    Offer a "quick take-down" option

    Ask institutions to contact as many authors as possible

    Publicise intentions via appropriate communication media
    - Take out insurance
- Note: there is no intention to abuse any IPR. The BL has been described as a 'trusted' public organisation and is not making any money out of supplying theses. Theses are supplied in order to support UK HE and the authors.

#### **EThOS Institutional Toolkit**

- Aim: Helping institutions to manage change
   To assist institutions to make theses available online
  - To offer guidance on the alternative options for participating in EThOS
  - To provide advice on the legal, cultural, technical, administrative and resource issues that need to be considered
- Four step process

  - Step 1. Culture Change

    What are e-theses, who benefits from making them available, what is EThOS

    Step 1. Culture Change

    What are e-theses, who benefits from making them available, what is EThOS
  - Step2. Business Requirements
    - Business case, legal issues, admin issues, participation options, priorities
  - Step3. Technical Implementation
    - Existing repository, setting up a repository, using the central hub
  - only

    Step4. Training & Guidance
    - Training methods, training authors, supervisors and library/admin staff

#### Next steps

- Ensure that appropriate funding is in place for the service to go live (Sponsors, 'philanthropic organisations')
- 'Scale up' the prototype system to meet expected loads
- Establish a digitisation studio
- Investigate funding options for further developments, but NOT allowing 'scope creep' for version 1
- Live late 2007



# Metadata-based analysis to improve clinical trial exchange

#### Daniela Luzi and Fabrizio L. Ricci

National Research Council, Institute for Research on Population and Social Policies, CNR-IRPPS (Italy)

#### Luca Dan Serbanati

Politehnica" University (Italy)

Clinical research on a new drug or on a new therapeutic procedure is based on the description contained in the clinical trial protocol, and other auxiliary documents. These GL documents are highly structured. They have to contain, according to the Guideline of Good Medical Practice, the objective/s of the study, the study design and methodology, the statistical description adopted as well as the types and procedures of the clinical patient data to be collected during the research. Moreover, clinical trial protocols are the starting point to better evaluate the research outcomes, usually published in scientific journals or research reports.

Due to the complexity of clinical research, there are many stakeholders interested in this information: investigators, research organisations, health managers and policy makers, physicians, pharmaceutical industries, journal editors, and, last but not least, patients looking for new therapies. Specific concerns of each of these roles in clinical trials need some tailored information taken from different sections of the clinical trial protocol in order to generate specific "views" on the clinical trial documents, and data available at particular phases of the study. Moreover, specific formats and "translations" of the content of these views into more understandable, less specialised languages are also needed.

There are various, important information sources devoted to the diffusion of clinical trials, but they fail to achieve a complete coverage of clinical research (especially that carried out by pharmaceutical industries), or they are accessible only to a limited number of organisations or regulatory agencies. The demand for a mandatory public registration of clinical trials is emerging from different institutions, and directives have been introduced in some countries.

What emerges is the necessity of standardisation of web publishing and retrieval of clinical trials concerning a) the structure and content of the CT, b) the bibliographic elements to describe the document, c) the data set necessary to provide a meaningful description of its content tailored to specific information users.

In order to reach this goal it is necessary to use meta-data to describe both the clinical trial document and its relevant information sections, allowing the achievement of sharing and harvesting this data from different information systems and for the various user information needs.

This paper intends to analyse the data set used in the most important clinical trial databases, make a comparison with the existing meta-data schema (Dublin Core and XML) as well as with the existing standard proposals (CDISC and HL7) available in the medical field. The aim of this analysis is to propose a set of meta-data to describe both the document and its relevant content to be used to improve the collection and retrieval of information in clinical research carried out in oncology.

# **AUTHOR INFORMATION**

**Daniela Luzi** is researcher of the National Research Council at the Institute of research on populations and social politics. Her interest in Grey Literature started at the Italian national reference centre for SIGLE at the beginning of her career and continued carrying out research on GL databases, electronic information and open archives. She has always attended the International GL conferences and in 2000 she obtained an award for outstanding achievement in the field of grey literature by the Literati Club.

# Metadata-based analysis to improve clinical trial exchange

Daniela Luzi\*, Fabrizio L. Ricci \*, Luca Dan Serbanati#

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# "Politehnica" University, Spl. Independentei, 313, 060032 Bucharest, Romania luca@serbanati.com

#### Overall Project Objectives

- Development of a comprehensive model of Clinical trial (CT) research in order to identify suitable tools to automate the entire process, through:
  - · Modelling the interaction between CT sub-processes
  - Identifying roles and information needs of the stakeholders directly
- participating to the process

   Identifying the information need of stakeholders "outside" the process • Providing ICT support for interoperability between organisations, platforms,
- applications

#### Paper objectives

Within the various actions taken by international and national organisations to support the disclosure of CT information and the implementation of global public available registries, analyse:

- the various solutions of CT data representations adopted by National Health Authorities, information providers and standardisation organisations
- · how data elements match with stakeholders information needs

## Methods

- Identification of data schemas developed by representative stakeholders:

  - Data schema comparison
     Development of a "reference schema" able to include the metadata to be analysed
- Analysis of meta-data used to register CT protocols considering:
  - · data set schemas proposed by
    - Regulatory Agencies
    - Organisations working on CT standardisation
  - · and used in:
    - main CT protocol registries.
- Comparison of data elements, their description and values.
- · Mapping the data elements with stakeholders information needs.

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### Clinical trial definition

#### Related to CT Process

•"any investigation in human subjects intended to discover or verify the clinical,  $pharmacological\ and/or\ pharmacodynamic\ effects\ of\ an\ investigational\ product(s)$ [...] with the object of ascertaining its safety and/or efficacy"

#### Related to the CT protocol:

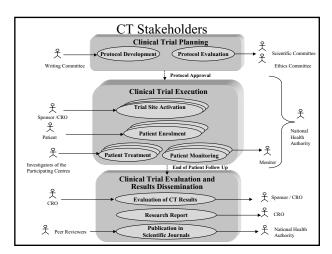
• "a written description of a trial of any therapeutic, prophylactic, or diagnostic agent conducted in human subjects, in which the clinical and statistical description, presentation and analyses are fully integrated into a single report

> Mandatory document to obtain the approval for the start of the clinical research by a scientific and ethics committees



#### And ...

- Workplan to be rigidly followed by the CT participating centres
- Methodological reference point to obtain reliable results
- · Organisational and management framework



#### Current CT framework and issues

- Internationally accepted Guidelines for Good Clinical Practice
- National/European Agencies establish regulatory requirements:
  - In Europe: EUTRACT + National Health Authorities In US: FDA

#### Issues:

- Different policy for CT information diffusion
- No comprehensive, international, public CT registry
- Poor quality on key information contained in CT databases



#### Publication bias

- Negative results of clinical trials are often not published
- Only a small percentage is published in ~ 3 years after drug approval
- · About half of the studies presented at scientific meetings are never published

# Actions to support CT protocol registration Food and Drug Administration Modernization Act (FDMA) • Public availability of CTs for serious or life threatening diseases · Mandatory submission for investigational new drug applications The World Health Organisation (WHO) - Registry Platform: Proposals of minimum · All interventional CTs should be registered protocol data set · All registered data should be publicly disclosed International Committee of Medical Journal Editors September 2004 Statement --> "Register or not publish" May 2005 Statement --> urging "full registration" Ottawa statement Obtaining a internationally unique protocol identification number • Registering the original protocol with subsequent amendments · Registry the trial results Pharmaceutical research and manufactures of America (PhRMA) · Joint position on disclosure of clinical trial information Our Analysis Concerns: International regulatory authorities: International Conference on Harmonisation of Technical Requirements for Registration of Pharmaceuticals for Human Use - Guideline for Good Medical Practice (ICH E6) World Health Organisation (WHO) Registry Platform European clinical trials database (EUTRACT) Organisation promoting standards: • Clinical Data Interchange Standards Consortium (CDISC) Public available protocol databases: • ClinicalTrials.gov (US National Institute of Health) • Clinical trials PDQ (US National Cancer Institute) • Current Controlled Trials Website (UK biomedical pub. companies) • Dec\_net Register (FR, IT, SP, UK) CT Information Providers and Publishers International regulatory authorities: • International Conference on Harmonisation of Technical Requirements for Registration of Pharmaceuticals for Human Use (ICH) promotes international harmonisation with representatives of EU, Japan, US and establishes common guidelines • World Health Organisation (WHO) • Established of a Registry Platform secretariat • Proposes 20 items to be registered in a "Primary Register" • European clinical trials database (EUTRACT) • Registers all CTs in the Community • Provides a unique EUTRACT protocol number • Facilitates communication between national health authorities (no public access)

#### Our analysis 2)

#### Organisation promoting standards.

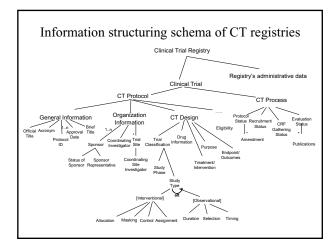
 ${\it Clinical\ data\ interchange\ standards\ consortium\ (CDISC)}$ 

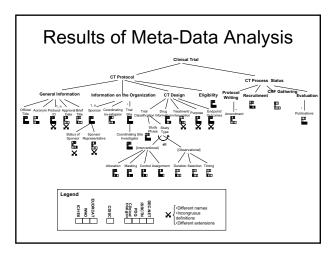
• leads the development of standards to improve electronic acquisition, exchange, submission and archiving of CT data and metadata

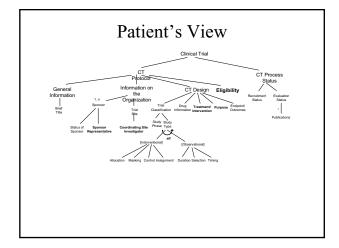
#### Public available protocol databases:

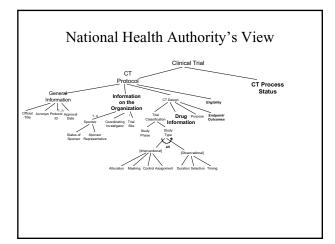
- ClinicalTrials.gov (US National Institute of Health)
  - established by FDAMA 113 Act, provides public access to US commercial, non commercial and international CTs
- Clinical trials PDQ (US National Cancer Institute)

  - includes most CTs sponsored by NCI
     gives patients' and health professionals' views of the CTs
     exchanges data with clinicalTrials.gov
- Current Controlled Trials (UK biomedical publishing companies)
  - includes randomised controlled trials from UK Medical Research Council
  - linked with the International Standard Controlled Trial Number (ISRCTN)
- Dec-net Register (FR, IT, SP, UK)
  - specialised in CT for children and supported by the European Community









#### RESULTS and CONCLUSIONS

- Identification of the CT research:
  - A unique CT identification number is recommended, in the meantime
  - secondary IDs have to be managed
     The majority of information has to be selected from the entire document using a pre-defined template
- Different points of view of information sources:
  - The aim of the registry influences the information acquisition model
     Regulatory authorities are concerned about investigational drugs, CT
    - organisation and responsibilities

    - CDISC is concerned with CT protocol elements, not with the process
       CT databases tend to focus on patients' and care providers' information needs
- CT Meta-data analysis
  - Different names of meta-data elements (Ex: Information on the Organisation)

  - Incongruous definition (Ex: Purpose of the study)
     Different extensions (Ex: Endpoints and outcomes)

Need for a standard CT representation encompassing CT process
Use of interoperable representation models (XML)
A standard representation could provide tailored information for stakeholders' views

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# Awareness and empowerment as a "must" for open access: sharing experiences in the creation and development of the "Nancy Style" to guarantee quality in document production and distribution

#### Paola De Castro and Sandra Salinetti,

Publishing Activities, Istituto Superiore di Sanità, Rome (Italy)

#### **Marcus Banks**

New York University School of Medicine (United States)

**Background** – The debate on Grey Literature (GL) has now a very long tradition going from uncertainty and confusion, in the last century, to new certainties and appraisal in the open access era. This implies the general acquisition of the awareness of the importance of GL as a fundamental primary source of information, hence the necessity to empower authors and issuing organization to guarantee quality both in the production and diffusion of GL. During the last international conference on GL held in Nancy in 2005, the proposal for the adoption of an *ad hoc* style was discussed and most welcome by the grey community. This led to the creation of the Grey Literature International Steering Committee (GLISC), which issued, in March 2006, the *Guidelines for the production of scientific and technical reports* (freely available from www.glisc.info) informally known as "Nancy Style".

**Goal** – The paper will point out some key points in the creation of the *Guidelines* with the objective to exploit and further develop them at best, according to the aims for which they were created and keeping pace with technologies and Internet requirements, mainly as regards open access and metadata. In particular, as promoters of the *Guidelines* and members of the GLISC, the experience of working with national and international realities will be reported to reflect on the importance of: a) creating a useful reference document applicable to different realities and contexts, b) investigating on the strategies to promote the adoption of the *Guidelines* involving authors and issuing organizations, c) keeping alert on the evolving necessities of the information market.

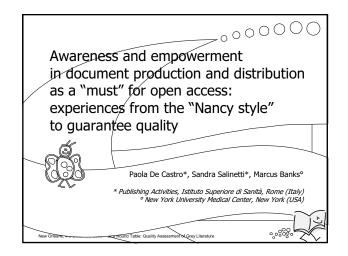
**Research method** – The major points of discussion and difficulties encountered for the creation of the *Guidelines* will be analysed to reflect on the selection process required to reach consensus at international level, even within a small group of experts within a specific field. During the working process, leading to the *Guidelines*, the authors of this study came in touch with other standards, guidelines, house styles, etc. Comparisons will be made with such documents in view of a future updating of the *Guidelines*. In particular, the recent ANSI Z3918 standard on the production of scientific and technical reports (released in 2005) will be compared with the present "Nancy Style", and new items for a possible integration will be proposed.

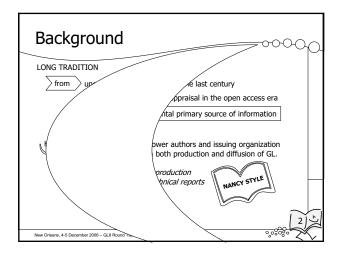
**Results** – Traditionally editorial rules and ethical considerations were disregarded in the production of GL with negative implications on its quality. The *Guidelines* represent a basic step to improve quality in the different stages of GL production in view of a wider circulation. The results obtained after the first period of their use will be given with the expectation that they contribute to create the right awareness for a responsible production and diffusion of GL. Thus, the *Guidelines* shall be regularly updated with shared consensus to respond to the changing environments and host the most qualified expert advice. The members of GL community should promote their diffusion mainly within GL issuing organizations that are less aware of existing standards regulating GL production and distribution.

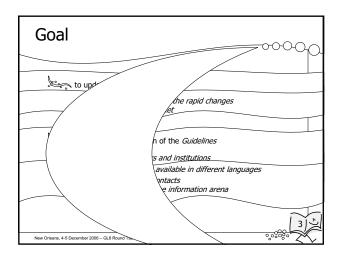
#### **AUTHOR INFORMATION**

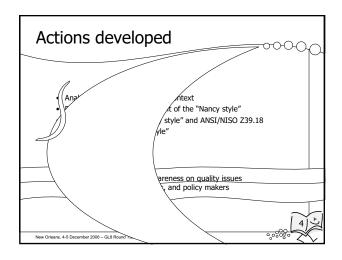
**Paola De Castro** is responsible for the production and diffusion of open and grey literature issued by the Istituto Superiore di Sanità, the Italian National Institute of Health, producing a quarterly official journal, a non-commercial monthly newsletter and different series of technical reports. She has published many articles on the information transfer process both at national and international level with special reference to the role of grey literature and takes part in the national and international debate in the field; she delivers courses on scientific writing for the Italian National Health Service operators, she is an active member of the European Association of Science Editors (EASE), the European Association of Health Information and Libraries (EAHIL) and the Italian Library Association (AIB).

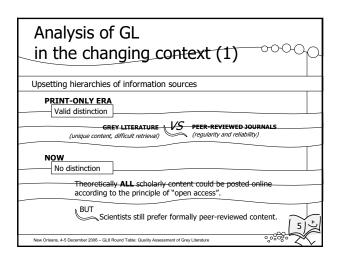
**Sandra Salinetti** deals with the production of technical reports produced by the Istituto Superiore di Sanità, assisting authors in the preparation and editing of documents and reviewing the texts to comply with national and international standards and make them available through the Internet. She participates in a training project on scientific writing to improve authors' personal skills in the production of scientific documents with special reference to the presentation of technical reports.

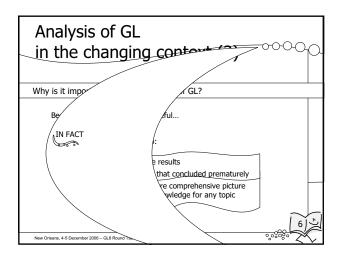






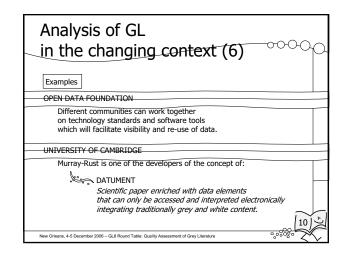


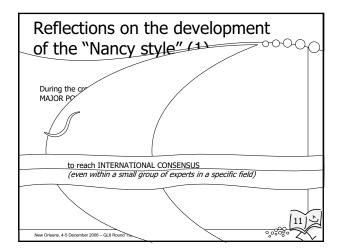




Analysis of GL	
in the changing context (3)	
How can the profile of GL be raised?	
INTERNAL advance among GL producers	
hOW?	
adhering to well-developed production standards:	
in Europe NANCY STYLE in USA ANSI/NISO standard Z39.18-2005	
EXTERNAL advance in the information landscape	
HOW? enhancing public awareness of GL	
New Orleans, 4-5 December 2006 – GL8 Round Table: Quality Assessment of Grey Literature	
0 0 Z V	
Analysis of GL	
in the changing context (4)	
in the changing context (4)	
Examples of changing policies	
Currently pending acts in 2006	
CANADA "Draft Policy on Access to CIHR-funded Research Outputs"	
Grant recipients should provide online access to:  • peer-reviewed articles (no longer than six months after publication)	
"research materials" and "research data" (different examples of "grey content")	
HEA WENDING Deceases Dublic Assess Art of 98864	
USA "Federal Research Public Access Act of 2006"  It only applies to peor-gravioured journals	
USA "Federal Research Public Access Act of 2006"  It only applies to peer-reviewed journals.	
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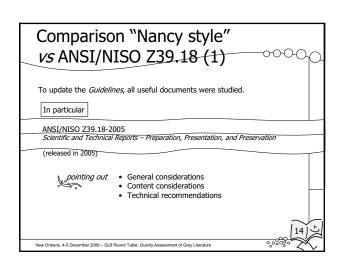
# Analysis of GL in the changing context (5) Open Data Movement: open data in science To ensure maximum access to several types of data: • scientific data (deemed to belong to the commons) • infrastructral data (such as that provided by geographic information systems) • factual data (not copyrightable) GL producers and users should become strong proponents of the open data movement

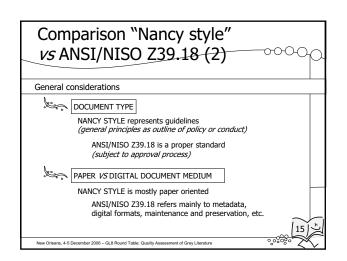


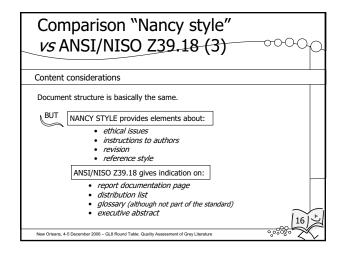


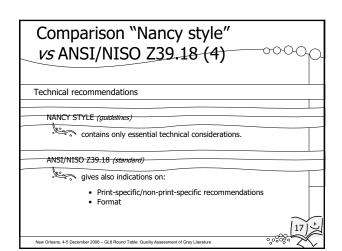
Reflections on the development of the "Nancy style" (2)	0
Electronic grey literature	
NANCY STYLE is mostly paper oriented  (editorial consistency and ethical considerations of traditional documents apply also to digital publications)  No metadata schema was then provided since no formula would satisfy all requirements.  YET since GL is now being published electronically METADATA ARE REQUIRED	
Will this Round table produce a new step towards a SIMPLE metadata schema?	<u> </u>
New Orleans, 4-5 December 2006 – GL8 Round Table: Quality Assessment of Grey Literature	C

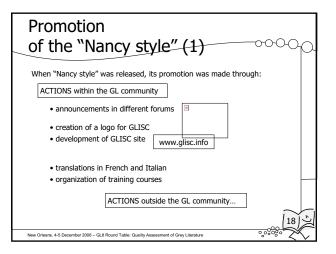
# Reflections on the development of the "Nancy style" (3) Adoption strategy AT FIRST a formal approval was asked to all organizations wishing to adopt NANCY STYLE. Encouragement never lacked: LESS FORMAL SUPPORT was soon granted by all institutions involved in their creation. BUT Consensus was given only by few. THEREFORE the adoption strategy should be revised: VOLUNTARY APPROACH followed by an official endorsement (once the organization can show that the Guidelines are actually followed)

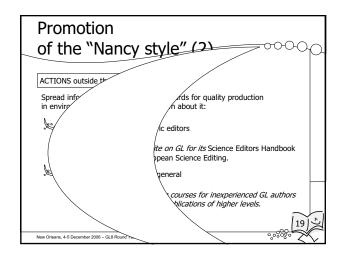


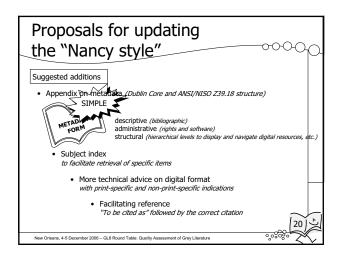


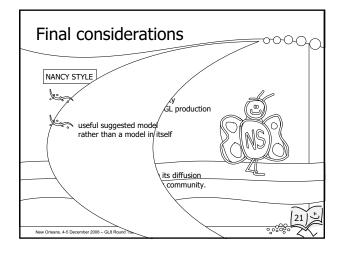














#### Present and past experiences in GL management and research: A questionnaire survey on Italian participants to GL Events

#### Rosa Di Cesare, Roberta Ruggieri and Loredana Cerbara

CNR – Istituto di Ricerche sulla Popolazione e le Politiche Sociali (Italy)

Libraries carry out a central role in the process of dissemination of scientific information. Particularly regarding grey literature, libraries have played a key role in overcoming obstacles to full access thereby contributing to the full inclusion of grey literature in the scientific communication network. This activity has been carried out with the development of grey literature produced within their organizations through specific collection-development policies and ad hoc bibliographic and editorial strategies. What issues connected with the planning of collections and with management of GL documents have been encountered and solved?

Moreover, recently, a number of libraries are promoting or supporting open archives. To what extent do they profit from their experience in GL management in the realization of institutional repositories or of ongoing projects on open access?

The aim of the paper is to examine the different approaches and strategies of a number of Italian special libraries, that hold high-quality collections and whose users have a high specialization, basically, towards their:

- a) management of historical and special GL collections;
- b) development and management of current GL collections;
- c) realization of institutional repositories or projects on open access.

The survey makes use of a semi-structured questionnaire, which was submitted to a number of managers of Italian special libraries, of governmental institutes or research institutes.

The questionnaire consists of fifty questions designed to capture all the information relevant to the above mentioned goals (a), (b), and (c). The questions are grouped into five

sections: (1) general questions, and detailed questions on consistence and quality of GL collections; (2) detailed questions about the management and bibliographic description of GL documents, included the cost of the management of GL documents and people

dedicated to them; (3) questions about past, current and future projects on GL education and training; (4) questions about current and future initiative regarding institutional repositories or open archives, and their link to the experience of GL management. scienze sociali.

Moreover, each part of the questionnaire includes a set of questions on both objective and subjective data, that express value judgements. GL managers are asked to respond in the light of their personal experience as "privileged observers", in the commonly accepted meaning of this term in the social sciences.

We close by discussing the "insight" and "feeling" of GL managers towards old and new issues connected with grey literature, through some open questions added at the end of the questionnaire.

#### **AUTHOR INFORMATION**

**Rosa Di Cesare** was born in Civita d'Antino (AQ) in 1952 and graduated from "La Sapienza" University in Rome in 1982. She received her diploma in Librarianship from the Vatican Library in 1996. She worked in the Central Library of National research council (CNR), where she started to become involved in research activity in the field of Grey literature (GL). Member of the Technical Committee for the SIGLE database from 1995 to 2001, she is presently responsible for the Library at the Institute of research on population and social policies (IRPPS) of the National research council. Her studies have focused on citation analysis and on the use of GL in scientific publications.

Present and past experiences in GL management and research. A questionnaire survey on Italian participants to GL events

Rosa Di Cesare, Roberta Ruggieri and Loredana Cerbara



ISTITUTO DI RICERCHE SULLA POPOLAZIONE E LE POLITICHE SOCIALI

#### Aim of the study

#### Profile description of Italian GL experts (\*)

- Identifying:
   How many are the Italian GL experts
   Which are their characteristics
- How much time they spend (or have spent) in their activities of research and management of GL
- What are (have been) their approach to GL and their motivations
- What is the value they assign to their experience

(\*) A GL expert is any person who has participated in national or international conferences on GL

#### Methods and sample

- The survey is based on an ad hoc developed questionnaire
- The questionnaire was sent to 108 of the 129 Italian authors of papers presented at national and international conferences on GL
- The number of respondents is 56 (52%)

## Table 1. Distribution of the (129) Italian GL authors by number of papers

Number of papers	Number of authors	%
1	95	73.6
2 - 5	31	24.1
> 5	3	2.3
Total	129	100.0

# Table 2. Distribution of the (56) respondents by number of papers

Number of papers	Number of authors	%
1	35	62.5
2 - 5	18	32.0
> 5	3	5.5
Total	56	100.0

# Table 3. Coverage of the sample with respect to the number of papers

	Au	thors	Res	ondents	Coverage
	n.	%	n.	%	%
Number of					
papers					
1	95	73.6	35	62.5	37.0
2 - 5	31	24.1	18	32.0	58.0
> 5	3	2.3	3	5.5	100.0

# Findings... Table 4. Profile of respondents by gender,

Gender	%
M	23.2
F	76.8
Age	
30-39	10.7
40-49	23.2
50-59	51.8
> 60	14.3
Education	
Master, PhD	39.3
Degree	55.4
High school	5.3

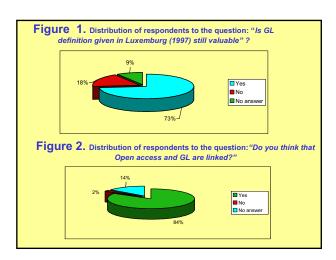
# Table 5. Profile of respondents by sector and position (n= 56)

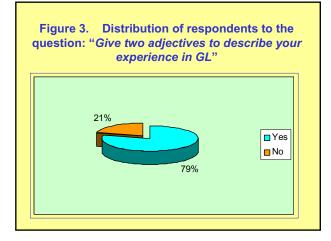
Sector	%
University	3.6
Public research institute	53.6
Public administration	26.8
Other	16.0
Position	
University professor	1.7
Library/Documentation cent	tre director 30.3
Researcher	19.6
Librarian	23.2
Technician	8.9
Other	16.0

## Table 6. Distribution of respondents by the time dedicated to GL (n= 56)

Research	Number	%
No more engaged	17	30.4
Engaged	39	69.6
-20%	19	48.7
20% - 50%	20	51.3
Management		
No more engaged	23	41.1
Engaged	33	58.9
-20%	15	45.4
20% - 50%	16	48.5
> 50%	2	6.2

Motivation	%
Vork	80.3
nterest in GL of his/her Institution	48.2
Participation in national GL project	42.8
Cultural interest	41.1
Participation in GL courses and workshop	37.5
Participation in international GL project	25.0
Other	8.9
Suggested by others	7.1
y chance	1.8

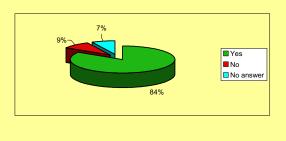




# Table 8. Expressions used by respondents to describe their experience in GL, ranking by frequency

,	Adjective	Frequency
1	nteresting	15
• (	Challenging	9
· +	lard	8
• (	Jseful	6
• F	Requiring engagement	4
• F	ormative	3
• F	rustrating	3
• (	Complex	2
• (	Comprehensive	2

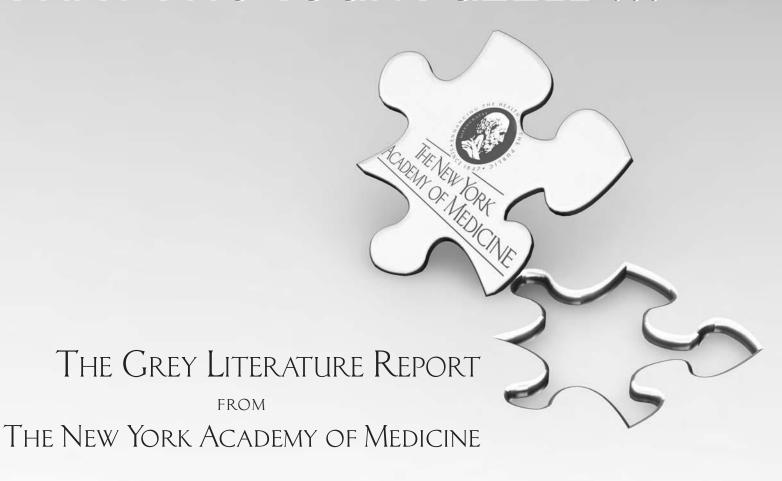
# Figure 4. Distribution of respondents to the question: "Would you still choose to deal with GL today?"



#### **Conclusions**

- Accuracy in questionnaire answering
- The majority of the respondents answered all questions
- Positive "feelings" with GL and his future supported by open access and new technologies

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# Implications of Copyright Evolution for the Future of Scholarly Communication and Grey Literature

#### Marcus A. Banks

New York University School of Medicine Frederick L. Ehrman Medical Library (United States)

#### Cees de Blaaij

Public and Academic Library of Zealand Academic Department (Netherlands)

#### Part I: The Changing Market

Although commercial publishers continue to dominate the scholarly publishing marketplace, the marketplace is becoming less commercialized and more diverse. Today there are many non-traditional channels for scientific communication, such as web logs and audio pod casts.

The formal journal article remains critical to scholarly discourse. Scholars are exploiting new technologies to challenge the prevailing marketplace for journals. Open access journals are free to all online readers, regardless of their institutional affiliations. Freely accessible repositories—whether organized by discipline or by institution—provide access to a broader range of scholarly work, in addition to formal papers.

Through an analysis of the business models of selected learned societies and commercial publishers, this paper will investigate the effects of changing copyright regimes on the economics of scholarly publishing. We will comment upon how these changes affect access to grey literature in particular, as well as a theoretical argument regarding the evolving relationship between white and grey literature.

The balance of this abstract presents the provisional views of the authors regarding these topics, subject to confirmation or challenge by further analysis.

#### Part II: The Copyright Solution

Scholars typically waive control over their copyrights to publish an article. Increasingly, scholars are choosing to maintain their copyrights as a way to promote knowledge sharing. The Creative Commons is at the forefront of efforts to encourage creators of intellectual works to ease redistribution of their works.

The Science Commons—an affiliate of the Creative Commons—seeks to provide the same flexibility for sharing scientific data. The movement toward easier exchange of data and ideas represents a return to the roots of scholarly journals. Beginning with the first edition of the Philosophical Transactions of the Royal Society of London in 1665, scholars have exchanged information in a quest for new knowledge rather than monetary gain. Scholars such as Erasmus and Leibniz corresponded directly with their colleagues, also without seeking payment. Although not understood as such at the time, this form of scholarship was an example of grey literature. The evolution in copyright now taking place will increase the prominence of today's grey literature, and eventually inspire a re-conceptualization of this entire category of information.

#### **Part III: The Response of Publishers**

Publishers are uncertain about how to respond to the changing scholarly communication marketplace. One barometer for their actions is the way they deal with intellectual property issues on an individual level. Publishers have adopted three distinct strategies regarding open access: maintenance of the status quo, mild accommodation, and liberal accommodation that allows authors great flexibility. The liberal publishers are in the best position to maintain their prominence in the scholarly communications marketplace.

#### Part IV: The Evolving Relationship Between Grey and White

The print-only era instilled settled ideas about the relationship between white and grey literature. White literature was peer reviewed, indexed in major databases, and prestigious. Grey literature was ancillary content perceived as useful, but oftentimes not worth the trouble of seeking. This distinction arose because library shelves only had limited storage space, and hard decisions were inevitable. Today white and grey materials occupy the same virtual space, and never crowd each other out.

#### **Conclusions**

Over time, the distinction between grey and white literature will become moot. All possible types of content, from data sets to video files to formal papers, will carry equal weight in the spectrum of scholarship. Eventually this transformation will be regarded as one of the most important consequences of the transition to digital scholarship.



#### **AUTHOR INFORMATION**

**Marcus A. Banks** is a librarian at the New York University School of Medicine. He is also the editor of the open access journal Biomedical Digital Libraries, and the Chair of the Medical Library Association's Task Force on Librarians without Borders. Marcus is also the recipient of the GreyNet Award 2006. He is interested in how the concept of grey literature will continue to evolve in the digital age.

**Cees de Blaaij** studied Social and Economic History at the University of Nijmegen and Library Science at the University of Amsterdam. He worked for Ernst & Young, management consultants, and the Institute for Information Law (University Amsterdam) as information professional. At the moment he is working as an academic librarian and coordinator digital services for the Public and Academic Library of Zealand, Netherlands. He took part in several GL conferences. He published several articles on issues concerning copyright in the digital environment and accessibility of grey literature on the Internet.

• • •	Implications of Copyright Evolution for the Future of Scholarly Communication and Grey Literature  Marcus A. Banks Cees de Blaaij GL8, New Orleans, Dec. 2006	
	Agenda  o Copyright in Flux o Nucleic Acids Research (NAR) Case Study o Conclusion: From Grey Literature to Grey Content	
• • •	Copyright in Flux (1)	
l	Open Access Movement Focus on peer-reviewed journals, but broadly applicable to grey literature Has liberalized copyright permissions of many publishers 75% of publishers allow some form of self-archiving (RoMEO Database)  "Hybrid" OA models common in 2006	

		]
• • •	Copyright in Flux (2)	
	o Hybrid OA Models: A Closer Look	
	<ul> <li>Economics attractive for publishers:</li> </ul>	
	Subscriptions continue, while author	
	fees are a new source of revenue	
	<ul> <li>Article-by-article OA further erodes</li> </ul>	
	concept of a unified journal issue	
	<ul> <li>Scientific communication "twigging"</li> </ul>	
	into ever more discrete data sets	
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• • •	Copyright in Flux (3)	
	copyright in ritary (o)	
	a Institutional Panasitarias	
	<ul> <li>Institutional Repositories</li> <li>Natural home for grey content</li> </ul>	
	Relieves authors of burden of self-archiving     Untake of IRa remains above	
	<ul> <li>Uptake of IRs remains slow</li> <li>Mandates essential for repository deposit</li> </ul>	
	Canadian health mandate 2006  Public description of the "second production" and "final public description".	
	<ul> <li>Public domain role for "research materials" and "final research data"</li> </ul>	
	<ul> <li>Much increased exposure to Canadian grey content</li> <li>Economic opportunities in re-purposing grey material</li> </ul>	
	2 Economic opportunities in re-purposing grey material	
		]
• • •	Copyright in Flux (4)	
	o Open Data Movement	
	<ul> <li>Increasing access to raw data</li> </ul>	
	Prime example of grey content	
	"Datuments" (Murray-Rust and Rzepa)	
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<ul> <li>NAR Case Study (1)-Rationale</li> <li>Hybrid OA in 2004, fully OA 2005-</li> <li>Online articles often have supplementary content</li> <li>Sometimes grey content</li> <li>Research question: Did NAR's move to full open access lead to greater quantity and quality of grey content in online articles?</li> </ul>	
<ul> <li>NAR Case Study (2)-Methods</li> <li>Sampling of articles from 2002-2006         <ul> <li>Two years before OA, one year of hybrid OA, two years of full OA</li> </ul> </li> <li>Established simple percentage of supplementary content each year (quantity)</li> <li>Ranked "greyness" of five randomly chosen articles each year that contained supplementary content (quality)</li> <li>Scale: Not grey, somewhat grey, very grey</li> </ul>	
<ul> <li>NAR Case Study (3)-Results</li> <li>Quantity sharply increased</li> <li>2002: 11%</li> <li>2005: 31%</li> <li>2006: 26 %</li> <li>Quality not strongly related with quality</li> <li>2004 quality stronger than 2005</li> </ul>	

		•
• • •	NAR Case Study (4)-Discussion	
	<ul> <li>o NAR articles an example of "datuments"</li> <li>o In this study, no virtuous circle in which complete open access leads to improved quality of grey content</li> <li>o Increased quantity of supplementary materials noteworthy nonetheless</li> </ul>	
• • •	Conclusion: Toward Grey Content	
	<ul> <li>Economics of publishing</li> <li>Major publishers have reduced their economic anxieties, with hybrid OA</li> <li>Next economic challenge</li> </ul>	
	Profiting from wider access to data     Grey content eclipsing grey literature in importance	



# From SIGLE to OpenSIGLE: An in-depth look on resource migration in the European context

### **Christiane Stock, Joachim Schöpfel and Nathalie Henrot** *INIST/CNRS (France)*

SIGLE (System for Information on Grey Literature) was THE European database on grey literature, which ceased its existence in 2005. This paper explains how this unique resource was moved from a traditional host to an open access environment.

It describes the dissolution of the producing association EAGLE (European Association for Grey Literature Exploitation) and the resulting necessity to obtain the rights on the data, as well as other formal difficulties attached to the European context.

In a second part we show how the data were moved successfully to a DSpace platform, giving the database a new look while preserving essential features like the subject categories.

#### **AUTHOR INFORMATION**

**Christiane Stock** graduated from the University of Freiburg in 1984. She joined INIST-CNRS, the French Institute of Scientific and Technical Information in 1989. Member of the Technical Committee for the SIGLE database from 1993 to 2005, she also set up the national agency for ISRN (International Standard Report Number). Today she is the head of the monographs and grey literature section at INIST.

**Joachim Schöpfel** graduated from the University of Hamburg in 1984. A research assistant and lecturer at the University of Hamburg, Department of Developmental and Educational Psychology, from 1985 to 1990, he obtained his Ph.D. from the same university in 1992. He is presently head of the library department at the French Institute of Scientific and Technical Information and teaches Culture and Society (1992-2001) and Documentation (from 2001 on) at the University of Nancy. He is member of the UK Serials Group and was the last president of EAGLE.

**Nathalie Henrot** graduated in History, then in Information Sciences from the University of Tours in 1988. She has been working for the INIST-CNRS for seventeen years, more specifically at the Monographs & Grey Literature Section from 1993, for congress proceedings acquisition. She is now the user administrator in the OpenSIGLE project.



# **Knowledge Generation in the Field of Grey Literature: A Review of Conference-Based Research Results**

### **Dominic J. Farace and Jerry Frantzen** *GreyNet, Netherlands*

#### Joachim Schöpfel and Christiane Stock

INIST-CNRS, France

Perhaps the most cost effective research carried out in information science today is in the field of grey literature. The published proceedings in the GL-Conference Series provide a record of impressive research results in this field of information. These results are based on various and diverse approaches and methodologies, whereby citation data, survey data, systems data, bibliographic and metadata, as well as other evidence based variables and indicators are compiled, processed, and analysed. Notwithstanding the fact that knowledge generation is an important measure of wealth in science and technology, the costs in human and material resources appropriated from research budgets must also weigh-in to determine real effectiveness. Only in this way can our initial rhetoric be transformed into a working hypothesis.

This research project, which lies within the structure of the GL-Conference Series, seeks to analyse not only the benefits of research on grey literature but also the costs related to carrying-out and publishing research results. In order to gather evidence-based data, a Project Information Document (PID) Form similar to others that are in place and use elsewhere has been designed to accommodate GL research. The PID-Form will be distributed to those authors/researchers, who respond to the GL8 Call for Papers, as well as to authors/researchers from last year's conference in this series.

Results gathered from these research resumes are expected to provide answers to relevant questions such as the percentage of research on the topic of grey literature that is formally funded, the ratio of ad hoc research, the ratio of individual to team research, average research costs and expenses, the duration of research projects, etc.

This evidence-based data will then enable us to grasp the cost effectiveness of research on grey literature and compare results with other fields in information studies. In so doing, the results of this study will demonstrate the power of grey literature to other information professionals as well as policy and decision makers, funding bodies and new investors. Furthermore, our results may be seen as indicative for other S&T conferences based on a call-for-papers.

#### **AUTHOR INFORMATION**

**Dominic J. Farace** is Director of TextRelease, an Amsterdam based information bureau specializing in grey literature and networked information. He is a native Louisianan and holds two degrees in sociology from Creighton University (BA) and the University of New Orleans (MA). His doctoral dissertation in social sciences is from the University of Utrecht, The Netherlands, where he has lived and worked for the past twenty-seven years. After six years heading the Department of Documentary Information at the Royal Netherlands Academy of Arts and Sciences (Swidoc/KNAW), he founded GreyNet, Grey Literature Network Service, in 1993 and has since been responsible for the international GL-Conference Series. In this capacity, he serves as Program and Conference Director as well as managing editor of the conference proceedings. Since 2004, he is a Guest Lecturer on Grey Literature in the Masters Program at the University of Amsterdam; Guest Editor for PRQ, Publishing Research Quarterly and Editor of TGJ, The Grey Journal.

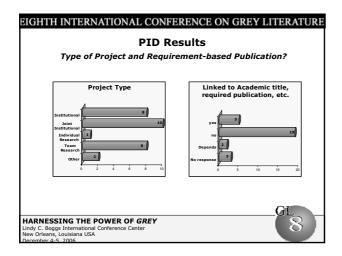
**Jerry Frantzen** graduated in 1999 from the College of Amsterdam in Library and Information Science. He is a freelance information specialist and the technical editor of The Grey Journal (TGJ). And, since 1996, he is affiliated with GreyNet, Grey Literature Network Service.

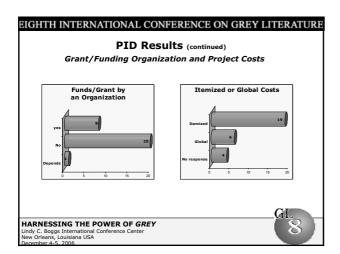
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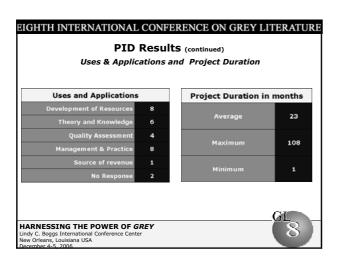
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Research Quadrangle	
Introduction, Background, Harnessing the Power of Grey	
General Survey	
field of grey literature, 2003	
← GL6, Citation Analysis based on the GL Conference	
Proceedings 1994-2004  Fig. 4	
← GL6, General Survey on Grey Literature 2004	
← GL7, Author Survey 2005 + Citation Data updated	
■ GL8, Project Information Document for cost-related	
Ciliofion Analysis data, 2005-2006	
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EIGHTH INTERNATIONAL CONFERENCE ON GREY LITERATURE	3
Research Method	
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3.2. Proposed Use and Application of Results: 4.1. Funding/ignatr Organization(s) (If none size to question 4.3) 4.2. Project Budget: (Total estimate in USS or Euro) 4.3. Project Costs and Expenses (Tamited)	
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HARNESSING THE POWER OF GREY Lindy C. Boggs International Conference Center New Orleans, Louisiana USA December 4-5, 2006







#### EIGHTH INTERNATIONAL CONFERENCE ON GREY LITERATURE

#### A Study in Grey, 2004

Selected Results from a Review of the Literature



At GL5 the work and careers of a number of 20<sup>th</sup> Century pioneers in the field of grey literature were reviewed.

Accomplishments in Grey Literature	Timeline
Weinberg Report - Careers Started for Four Information Professionals	1960s
Peter Auger - First Edition Reports Literature Sources in GL	1970s
Vilma Alberani, Director ISS Ed. Services European Association for GL Exploitation	1980s
Ulrich Wattenberg - Edited Oeuvre Japanese Information in ST&Commerce	1990s
Andrei Zemskov, Director NPLS&T Russian-German Digital Archive, RusDNL	2000s

A need to look at the direction GL would take in the 21st Century.

The GL-Conference Series offered a framework in which various types and aggregates of empirical data could be compiled and further examined.

#### HARNESSING THE POWER OF GREY

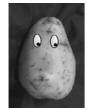
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#### EIGHTH INTERNATIONAL CONFERENCE ON GREY LITERATURE

#### A Study in Grey, 2004

Selected Results from a General Survey on Grey Literature



The Luxembourg definition on grey literature (1997) was expanded and modified. Grey publishers were encouraged to include a statement of the review process in which their print and electronic documents underwent.



Curricula specific to grey literature should be further developed for LIS studies.

Organizations involved in grey literature should formulate and publicize their policy statement

#### HARNESSING THE POWER OF GREY

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#### EIGHTH INTERNATIONAL CONFERENCE ON GREY LITERATURE

#### A Study in Grey, 2004-2005 Selected Results from Citation Analyses

- $\bullet$  Self-citations are decreasing, serial citations are increasing; Hyperlink citations are increasing but not at the cost of standard bibliographic citations; Citations to reports are decreasing, citations to articles and papers are increasing; Age of citation is decreasing commensurate
  - to the increase in hyperlink citations.



· A bare URL is insufficient as a citation;

 Guidelines for GL citations would enhance the overall use and value of grey literature.

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#### EIGHTH INTERNATIONAL CONFERENCE ON GREY LITERATURE

#### A Study in Grey, 2005

Selected Results from a GL-Author Survey



- Europe and North America account for 87% of research on grey literature;
- 55% hold that a Citation Style for GL would be of benefit to them:
  - 49% have published via a commercial publisher;
    • 59% have published on
  - other topics than GL;
     66% have a positive view
  - on Open Access;

    29% have a positive but qualified standpoint on Open Access.

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#### EIGHTH INTERNATIONAL CONFERENCE ON GREY LITERATURE

#### A Study in Grey, 2005-2006

Analysis of Results from the Project Information Documents



Research on grey literature is not a professional

hobby of individuals; Currently the majority of research on GL is

without outside funding; Project workers are able and willing to itemize costs related to their research;

The uses and applications of research results are multiple and diverse;



Average research results presented at the annual conferences represent 23 months of project work.

And now to top it off...



#### HARNESSING THE POWER OF GREY

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#### EIGHTH INTERNATIONAL CONFERENCE ON GREY LITERATURE

#### Conclusion A typical figure in grey?



In our attempt to 'Harness the Power of Grey', our team has introduced over the past four years a number of methods for gathering, compiling, comparing, and analysing research results within the GL-Conference Series.

While these results have enabled GreyNet, Grey Literature Network Service, to enhance and expand it print and electronic products and services, the question still remains:

Are these results indicative for other conference structures based on a call-for-papers?

Thank You!







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CENTRE NATIONAL DE LA RECHERCHE SCIENTIFIQUE



# Louisiana Coastal Wetlands and Louisiana Coastal Grey Literature: Vanishing Treasures

#### Gina R. Costello

Louisiana State University
Hill Memorial Library (United States)

#### Problem/Goal

Before Hurricanes Katrina and Rita, Louisiana was losing approximately 25 square miles of land annually due to coastal erosion. In light of the devastation caused to Louisiana's coast from 2005 hurricanes, protecting against future hurricane damage by restoring the coastal wetlands is now an even greater priority. Preserving the coastline and grey literature relating to the Louisiana coast is the purpose of a project that began in October 2004.

#### **Research Method/Procedure**

The Governor's Office of Coastal Activities and Louisiana State University (LSU) Libraries began an ambitious project to identify, collect, preserve, and provide access to grey literature research relating to the state's battle against coastal land loss. LSU's Special Collections Library received \$116,759 from the state Wetlands Conservation and Restoration Fund to begin the Coastal Research Grey Literature Project.

For this project grey literature was defined, but not limited to working papers, reports, newsletters, bulletins, fact sheets, conference proceedings, committee reports, and theses and dissertations. Although much of the coastal grey literature was in libraries throughout the state, an effort to organize all the materials and offer researchers a singular resource had not been attempted. This project offered a unique opportunity to preserve and add value to these numerous resources.

The Project Librarian created an online survey tool with questions relating to research preferences and knowledge of grey literature. Approximately 360 individuals, including state and federal agency workers; university faculty, researchers, students; and directors of special agencies or non-profits, who work in coastal-related fields were asked to submit online responses.. Over 100 individuals provided feedback, which was evaluated and used to better identify grey literature sources and to create the custom database.

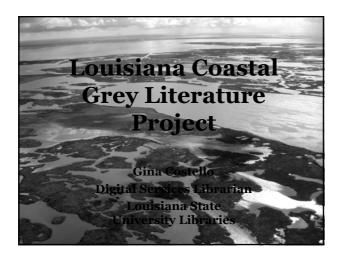
The project librarian looked for grey literature that had been published by state and federal agencies, state universities, and private entities. She visited all state agencies and sought their input. She discovered grey literature on dusty bookshelves and in abandoned offices. She obtained grey literature collections from two retired professors and the Louisiana Sea Grant Library.

Metadata about each document that was found was input into a database designed according to project specifications. Programmers at LSU's Center for Computation and Technology created the database using an open source portlet based portal software called GridSphere. The first stage of the project involved providing full text searchable citations only for all the documents. Future plans for the project include providing downloadable full text documents.

#### **Results**

The 2005 hurricane season delayed the project completion. As of April 2006, the database is complete and contains metadata for over 800 grey literature documents. LSU Libraries is currently working with Coastal Louisiana Ecosystem Assessment and Restoration (CLEAR) to migrate the database to their server.

Once the database has been located within CLEAR, interested parties will be notified by e-mail. Articles about the project will be published in newsletters such as the LaCoast.gov publication WaterMarks and websites such as www.americaswetland.com. This important grey literature resource will be available to anyone who seeks more information about the history and future of the Louisiana coastal wetlands.



#### Louisiana Coastal Grey Literature Database Project

The Louisiana Governor's Office of Coastal Activities



#### Louisiana State University Libraries

Began a project in October 2004 to collect and preserve Louisiana coastal grey literature.





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#### **Project Goals**

- Collect, preserve, and allow the public access to Louisiana coastal grey
  - Identify grey literature at state and federal agencies, state universities, and private entities
  - Create an online searchable citation database
  - Allow for full-text searching and downloadable full-text documents capabilities

#### **Online Questionnaire**

- Questions
  - How he/she conducts research
  - What resources he/she uses
  - What types of grey Literature he/she has used on the job or in research
- Response
  - Of the 360 individuals who received the e-mail, 105 (34%) responded to the questionnaire



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#### **Online Questionnaire**

Respondents to Questionnaire



105 Total Respondents

☐ State or Federal Agency Employees

■ University Faculty and Graduate Students

■ Private and/or Nonprofit Company Employees

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#### **Online Questionnaire**

- Q: What are your primary sources for information in your research/on the job?
  - Journal articles 52 individuals 75% are in a university setting.
  - Technical/Government reports 31 individuals. 74% are state or federal government employees
  - Less than 15 people chose the Internet or books as their first research tool.

#### **Database**

- Designing a relational metadata database using GridSphere portal software
- Database will be searchable by title, author, agency, and keyword
- Keywords will be cross-referenced and like terms will be linked to each other

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# **Metadata/Organization Issues**

- Records
  - -All records will be bibliographic citations only
  - -Additional metadata about scanning or file type can be added to record later
  - -Use metadata from existing records created by libraries state-wide

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# Metadata/Organization Issues

- MODS (Metadata Object Description Schema)
  - -Library of Congress metadata schema
  - -Uses XML (Extensible Markup Language)
  - -Derivative of MARC 21, the library cataloging standard.

# Katrina and Rita = Project Halted

#### **Lessons Learned**

- More thorough pre-planning
- Explore out of box DB options
- Overcoming 'Programmer language' barrier
- Timelines and deadlines
- Inter-agency cooperation and communication

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#### **Remaining Work**

- Customize the database interface
- Add additional records to the database
- Re-visit the state agencies
- Explore other grey literature resources
- Train users on the database system

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## Searching down the fisheries information web

### Janet Webster

Hatfield Marine Science Center, Oregon State University (United States)

### **Jean Collins and Patricia Merrikin**

Food and Agriculture Organization of the United Nations (Italy)

Fishing down the marine food web is an influential concept proposed by Pauly et al. (1998) to describe the pattern where high trophic level fish species are over-exploited thus disturbing the ecology and economics of the system. Essington et. al (2006) suggests that fishing through the food web may better describe the situation as more trophic levels are exploited leading to a greater complexity in fisheries management than simply over-fishing. We contend that the two concepts have analogies in the complex web of information that ranges from pure science to applied techniques to management policies. All are important, yet have varying levels of accessibility and authority. Often the apex of the peer-reviewed journal article is considered the most important level discouraging scientists and managers, especially those in developing countries, from populating the other layers of the web that may be considered grey.

We are particularly interested in how information produced in developing countries fits into this information web. Identifying the layers and then establishing publication patterns help us collect the information consistently, or direct users to it in a coherent fashion. To do so, we focused on one topic, mangroves, using it as a means to exemplify the complexity of the web of information and reveal publication patterns. Mangroves are productive ecosystems for a variety of natural resources. Our investigations pursued several approaches. Using Aquatic Biology, Aquaculture and Fisheries Resources (a well-respected index for the aquatic environment and its resources), Biosis and other agriculture and forestry indices, we identified 2000-2005 mangrove-related publications from African and Indian institutions, analyzed their content (e.g. basic research, techniques, policy, et.), publication outlet and availability. Then using OAIster and GoogleScholar, we identified publications from the same time period using the same keyword concepts, and again analyzed authorship, content and outlet. We compared our findings from the searches with the holdings of the FAO Library, a collection renowned for its holdings from developing countries on natural resources topics. We also compared our results across the databases to identify if any bias existed among the tools as well as between the geographic areas.. Once we had a sound description of the layers of information on mangroves, and a sense of availability, we queried FAO researchers in the field on their perceptions of the same – the layers, the producers and the availability.

We suggest that Pauly's concept of declining high trophic levels and Essington's concept of greater complexity are useful in describing the web of information. Different tools may influence how people exploit the web of information with some seeking out primarily the peer-reviewed, Western published material while others discover more layers of useful information. We attempt to show how separating the so-called grey literature from the peer-reviewed through the tools we use to discover and access information is harmful to the environment. The web of information would be strengthened by improving accessibility of lower trophic levels of information or what many of us value as the grey literature of the field and others disdain.

Pauly, D, Christensen, V., Dalsgaard, J., Froese, R. & Torres, F Jr. 1998. Fishing down marine food webs. Science vol. 279, no. 5352, pp. 860-863.

Essington, T., Beaudreau, A. & Wiesenmann, J. 2006. Fishing through marine food webs PNAS vol. 103, no. 9, pp.3171-3175.

## **AUTHOR INFORMATION**

**Janet Webster** is the head librarian at Oregon State University's Guin Library located at the Hatfield Marine Science Center in Newport, Oregon U.S.A. This library focuses on marine science and supports an active field research center. Her various interests include collaborative filtering, integration of grey literature into library collections, and global access to local information. Most recently, during her 2004 sabbatical, Professor Webster developed a plan for an institutional repository at OSU and then collaborated with the Fisheries Department of the UN Food and Agriculture Organization to study enhancing access to information that supports implementation of the FAO Code of Conduct for Responsible Fisheries. She is an active member of the International Association of Marine and Aquatic Libraries and Information Centers having served as its president and on numerous committees. She received her undergraduate degree from the University of Chicago and her MLS from Columbia University.



**Jean Collins** is Fisheries Librarian at FAO where she has worked since 1990 providing information services primarily to the FAO Fisheries Department and fisheries organizations in developing countries. She is very active in the International Association of Aquatic Libraries and Information Centers (IAMSLIC) strengthening professional network among fisheries libraries. She is also editor of several FAO publications addressing the issues of libraries in developing countries and the role of information in fisheries development.

**Patricia Merrikin** is Reference Librarian at the David Lubin Memorial Library of the Food and Agriculture Organization (FAO) of the U.N. where she has worked since 1992. Her subject areas include Agriculture, Rural Development as well as Development economics and sociology. She is one of the key contacts for AGLINET, an international network of agriculture libraries. Ms Merrikin works closely with FAO staff providing expert assistance with information identification and retrieval.



## The Impact of Grey Literature in Advancing Global Karst Research

### **Todd Chavez and Pete Reehling**

University of South Florida, Library System (United States)

## **Anna Perrault and Courtney Crummett**

School of Library and Information Science University of South Florida (United States)

The Karst Information Portal (KIP) is an evolving international community of scientists, information specialists, and speleologists seeking to create open access to integrated information systems to advance karst, cave, and aquifer research. Karst, an understudied natural environment critical to the wellbeing of 40 percent of the Earth's population, is adversely affected by expanding global development and environmental degradation. Karst terrains are the source of the drinking water supply of about 1.6 billion people and host remarkable, but poorly understood, biodiversity including unique, rare, and endangered species.

During a January 2006 conference, 29 members of the global karst research community met in Carlsbad, NM to define the operational problem and propose solutions. Conference participants concluded that the karst research community and its knowledge base are multi-sector, fragmented, globally distributed, and highly interdisciplinary – as well as highly dependent on "grey" information sources such as trip logs, maps, club newsletters, and contract reports. As research into the potential of karst for benefit or hazard to humanity intensifies, information integration and linkages promoting collaboration and connectivity among scientists, decision-makers, educators, and the general public are essential. A key component to any potential solution to the problem is obtaining and preserving "grey" karst information sources, and providing interdisciplinary linkages among karst scientists to bring about discovery and contribution of core "grey literatures.

Building on the work of the conference participants, information specialists from the USF libraries and the School of Library and Information Science planned and conducted a global needs assessment for the KIP with particular emphasis on the role of grey literature in karst research. One of the primary purposes of the qualitative survey instrument was to generate an initial inventory of core "grey" information resources as well as the karst community's willingness to participate in building and expanding both this collection and the associated controlled vocabularies. The survey was also designed to assist in formulating guidelines for the collaboration-connectivity requirements of a research community spanning the globe. Costs associated with the study totaled \$4,800.

The proposed panel discussion will report on the Karst Information Portal: the initial planning efforts and formation of the portal; the global needs assessment; the results of the assessment for obtaining and preserving "grey" karst information sources; and the services and research tools provided by the portal.

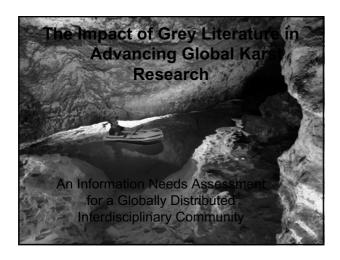
## **AUTHOR INFORMATION**

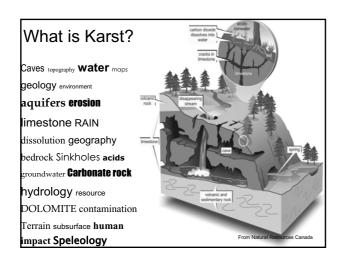
**Todd A. Chavez** is Director of Collection Analysis for the University of South Florida Libraries. His research agenda includes assessment of collections advancing interdisciplinary research and Internet-based subject/discipline knowledge portals. Current projects include the Karst Information Portal and a medieval studies portal connecting Florida's emerging community of medievalists.

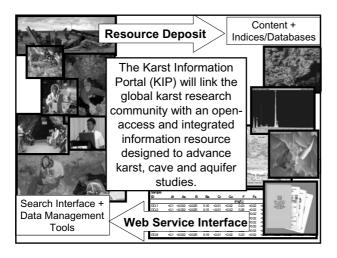
**Courtney Crummett** is a fellow at the National Library of Medicine in Bethesda, Maryland. She holds an MA from University of South Florida School of Library and Information Science and an MS in geology from the University of Maryland. Her research interests include usage of electronic tools such as, blogs, RSS feeds, wikis, to facilitate information seeking for scientists.

**Anna H. Perrault** is Professor in the School of Library and Information Science at the University of South Florida. Her bibliometric studies of aggregated academic library collections have won numerous research awards. Collection assessment projects have resulted in legislative appropriations to enhance academic library collections.

**Pete Reehling** is GIS & Data Formats Librarian for the University of South Florida Libraries. Currently, he is establishing an Enterprise Geodatabase using Oracle and ArcSDE to create a central GIS repository and evaluate its effectiveness in providing GIS data to the USF GIS user community, including karst scientists.







Karst Information Porta

## Information Needs Assessment

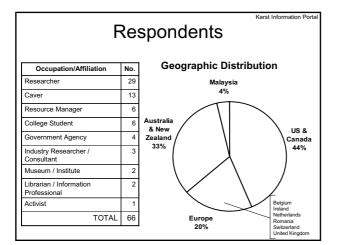
Conducted to guide development of the Karst Information Portal ...

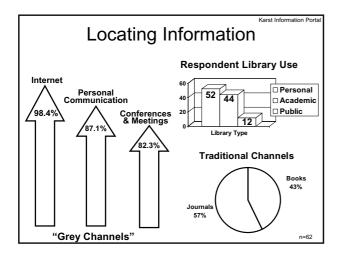
## **Purpose**

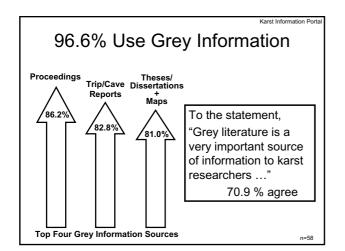
- Define information content needs
- Assess role of grey information sources
- Define desired web services

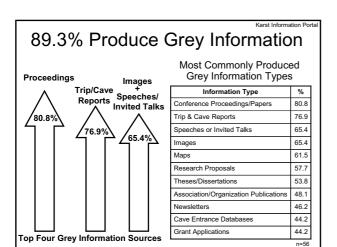
## **Method**

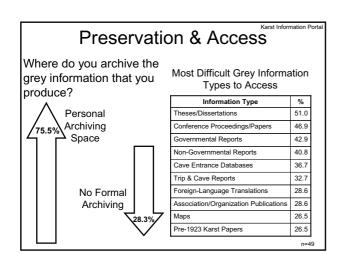
- "Snowball" sampling (11 initial targets)
- Web-based
- · Piloted January 2006
- Administered August-September 2006

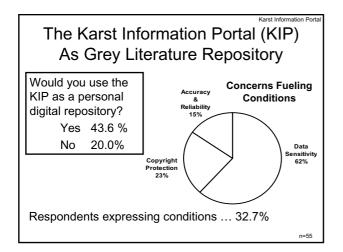


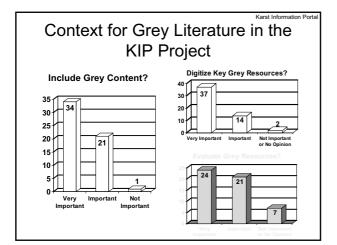












# Thank You! Todd Chavez Director of Collection Analysis, USF Library System tchavez@lib.usf.edu Dr. Anna Perrault Professor, USF School of Library & Information Science perrault@cas.usf.edu Courtney Crummett Fellow, National Library of Medicine courtcrum@gmail.com Pete Reehling GIS Librarian, USF Library System reehling@lib.usf.edu Lechuguilla Cave 3-D Profile Toporobot Computer Assisted Cave Cartography



## Assessing the Diffusion and Impact of Grey Literature Published by International Intergovernmental Scientific Groups: The Case of the Gulf of Maine Council on the Marine Environment

## Bertrum H. MacDonald, Ruth E. Cordes, & Peter G. Wells

School of Information Management & School for Resource and Environmental Studies

Dalhousie University (Canada)

Although publication in the form of grey literature is widely practised by governmental and intergovernmental groups, quality control assessments rarely consider the important factors of the diffusion and impact of this literature. In our recent research we showed that the grey literature output of GESAMP, the Joint Group of Experts on the Scientific Aspects of Marine Environmental Protection (sponsored by the UN and several of the UN-family of organizations), did reach scientific readers and was cited in scientific papers, reports, and monographs. GESAMP is, however, a specialized scientific body. To test whether the citation patterns for GESAMP publications are representative of international intergovernmental bodies, we have extended our research to investigate another intergovernmental organization devoted to marine environmental issues, namely, the Gulf of Maine Council on the Marine Environment (GOMC). Because of its similar environmental focus, GOMC is an important comparative organization to study. Furthermore, GOMC's mandate for public policy development and public education as well as scientific investigation provides an opportunity to study grey literature in a broader context.

The Gulf of Maine Council on the Marine Environment, an American-Canadian partnership of governmental and non-governmental organizations, has been working since 1989 to maintain and enhance environmental quality in the Gulf of Maine. The Gulf's watershed includes all of the American state of Maine, and portions of Massachusetts and New Hampshire and the Canadian provinces of New Brunswick, Nova Scotia, and Quebec. The Council organizes "conferences and workshops; offer[s] grants and recognition awards; conduct[s] environmental monitoring; provide[s] science translation to management; raise[s] public awareness about the Gulf; and connect[s] people, organizations, and information" (GOMC website). In contrast to GESAMP, which primarily publishes rigorously refereed scientific reports, the Gulf of Maine Council produces both scientific studies and reports and a broad range of other publications designed to reach a wide public readership, all of which can be classified as grey literature. Through its own publications and those resulting from studies conducted under contract or in cooperation with other organizations, the GOMC provides a complex publishing history for study.

In this paper we will discuss our systematic investigation of GOMC print and digital publications, approximately 300 identified to date, to show that the influence of the grey literature output of this international organization exhibits features similar and different to GESAMP's literature. Our analysis draws on a comprehensive database of the published output of GOMC, which we built for our project. Coupling citation analysis with recent advancements of the web and digital tracking techniques, we have uncovered evidence of the influence of GOMC publications. Our investigation of both GESAMP and GOMC shows that even though grey literature fulfills a major role in the operation of intergovernmental organizations, and though digital alerting and access tools abound on the Internet, a reliance on grey literature as the primary means of publication continues to pose significant hurdles for influencing scientific research, public policy, and public opinion. While grey literature is common to these organizations, its impact can be muted because of the limitations of the literature itself.



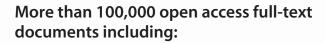
## **AUTHOR INFORMATION**

**Bertrum H. MacDonald** is the Associate Dean (Research) in the Faculty of Management at Dalhousie University, Halifax, Canada. He holds a BSc (Biology) from Acadia University, and an MA (History of Science), MLS, and PhD (Information Science) from the University of Western Ontario. He is the Editor of Electronic Resources for the History of the Book in Canada / Histoire du livre et de l'imprimé au Canada project www.hbic.library.utoronto.ca>, funded by a \$2.3 million grant from the Social Sciences and Humanities Research Council of Canada. His research focuses primarily on the dissemination of scientific information among Canadian scientists and engineers (both historically and currently) and on the history of scientific and technical publishing in Canada. In 2001 he was named a Dibner Library Research Scholar at the Smithsonian Institution in Washington DC. In recognition of his significant contributions to the bibliography of Canadian science and technology he was awarded the Marie Tremaine Medal by the Bibliographical Society of Canada in 2000 and is the GreyNet Award Recipient in 2004.

**Peter G. Wells** is a Senior Research Scientist and Research Manager with the Environmental Conservation Branch, Environment Canada, Dartmouth, Nova Scotia, Canada, specializing in coastal and marine water quality problems and issues, and marine ecotoxicology. He is a Professor and Adjunct Professor at Dalhousie University, Halifax. He is a past Chair (1998-2000) of GESAMP, which publishes a technical Reports and Studies series on marine pollution and protection issues, through the UN agencies. He has been involved in a number of state of the oceans reports, including most recently the UNEP-GESAMP Report and Studies No. 70, A Sea of Troubles (2001). One of his research interests is evaluating the use and influence of such technical reports in marine environmental management.



## The Source for Grey Literature in Education



- Research reports sponsored by the U.S. Department of Education
- Conference proceedings and papers
- State education agency reports
- Research and technical reports from scholarly societies
- Policy papers, working papers, position papers
- Other education-related materials

## **ERIC** provides:

- More than 1.2 million bibliographic records of documents, journal articles, and books
- Education grey materials indexed from the 1960s to the present
- A robust search interface to aid the discovery of materials
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Search the extensive ERIC Collection at www.eric.ed.gov

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## The Messy World of Grey Literature in Cyber Security

## **Patricia Erwin**

Institute for Information Infrastructure Protection/Dartmouth College (United States)

The foundation of my paper is based on four observations: 1) Research is messy; 2) Traditional collection development policies are structured documents aimed at assuring a level of quality in the collection, but also to satisfy the administrative need to justify the expense of providing resources to an academic or research community; 3) Grey literature doesn't fit the formal model of scholarly communication, therefore the quality is suspect and is not adequately addressed in most collection development policies; 4) The research process and grey literature share similar attributes. Libraries, by focusing on the formal products of research, miss the fertile, albeit more messy grey literature. I will use the I3P's focus on grey literature in cyber security as illustrative of how we need a broader definition of what constitutes the 'fruits' of research.

When we think of library collections we tend to think in terms of systems, order, and prescribed ways of tending to our collections. Our academic and research libraries are bound by the orderly world of academic departments, curriculum development, and the infrastructure of academia. Our collection development policies reflect that sense of order, clearly articulating the subject areas in which we actively collect, formats to be collected, and most importantly, the quality of the resources that will grace our shelves and gain a spot in our catalogs. What a tidy world we live in.

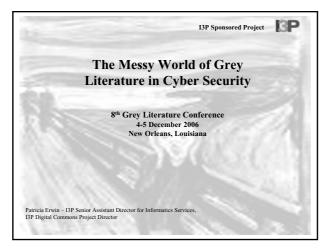
The truth is that research is messy. It is that intersection of the serendipity, randomness, and discovery that lends excitement to the research process. The chance merging of two seemingly unrelated concepts moves research into new areas of knowledge. These early findings and concepts do not appear in the standard scholarly communications vehicles, but rather in lab notebooks, concept papers, and technical reports, i.e. grey literature. There is a perception that grey literature is of less value than resources published through the more traditional and formal models of scholarly communications. In fact it has been noted that "scientific research is recognizable as such not because of the conditions under which it is performed but because of the way it is presented and published" (Pierce 1990, p. 55).

To better support research efforts, our collections must mirror that messiness of research. Traditionally, most collection development policies have not reflected the value of grey literature in the areas of computer science, and specifically cyber security. In support of my observations, I will report on a sampling of collection development policies from the I3P Consortium members' libraries. Our members represent academic research institutions, federal research labs, and not-for-profit research organizations. While much grey literature is collected internally, either by individual researchers or as part of an organizations institutional assets, the impetus for making this research widely available is mired in financial constraints, 'ownership' issues, and an underlying suspicion by some librarians that grey literature is not very quite as valuable and other resources that have moved through the publication process.

## **AUTHOR INFORMATION**

**Patricia Erwin** is Senior Assistant Director for Informatics Services at the Institute for Information Infrastructure Protection (Dartmouth College, Hanover, New Hampshire). She has held information management related positions at the Dartmouth College Library, the University of Virginia Library System, and in private industry. She regularly teaches graduate and undergraduate courses in digital libraries, knowledge management, organizational learning, and critical thinking. Ms Erwin holds a Masters Degree in Library and Information Science from Indiana University, and a Masters Degree in Internet Strategies Management from Marlboro College.

Her primary interests are in how organizations leverage what they know to push a disciple or area of knowledge forward, the role management of information plays in the research process, and how organizational structure enhances or impedes the flow of information. Most recently she has been directing a project to develop a national digital library commons of cyber security resources. This project is funded by the U.S. Department of Commerce's National Institute of Science and Technology (NIST).



### **Overview of Presentation**

- Brief introduction to the Institute for Information Infrastructure Protection (I3P).
- Brief overview of the Digital Commons Project and the Digital Library.
- Four observation on the research activities in general, and specifically how grey literature in cyber security is not addressed in the standard collection development policy.
- An overview of selected I3P Members' library collection development policies.
- How the I3P is addressing the problem.

## The Institute for Information Infrastructure Protection (I3P)

- The Institute for Information Infrastructure Protection (I3P) located at and managed by Dartmouth College, Hanover NH.
- Funding for the I3P comes from the US Department of Homeland Security (DHS)
  Directorate on Science and Technology and the National Institute for Science and
  Technology (NIST)-soon to also be sponsored by DHS-National Cyber Security
  Directorate.
- The I3P Consortium is composed of US academic institutions, national labs, and not-for-profit research organizations – all have strong cyber security research programs or focus.
- The I3P Consortium sponsors research projects and programs, including Process Control Systems, the Economics of Cyber Security, and four new projects starting in 2007.
- The Cyber Security Digital Commons is an I3P-sponsored project that includes both public and private information tools and services.

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The Digital Commons Project	
Mission  We seek to be the electronic conduit through which users learn, collaborate, and create new knowledge in the broad area of information infrastructure protection. Our unique approach will be the emphasis on scope, making it the first place the cyber	
security community [and others] turn to for what is happening in the world of information infrastructure protection.	
Tools and Services  International Calendar of Cyber Security Events International Cyber Security Organization Directory	
Cyber Security Glossary     Cyber Security Digital Library	
	1
The Details  • How We Provide Value	
<ul> <li>Quality - Information is selected based on established criteria</li> <li>Focused - Targeted body of knowledge</li> <li>Fast - What we cover is in one location</li> </ul>	
<ul> <li>Unique – Resources you can't find other places</li> <li>Free – Anyone can use our services</li> </ul>	
Targeted Customer Base	
<ul> <li>Researchers (academia, industry, and government)</li> <li>Librarians &amp; Information Professionals (information providers to</li> </ul>	
researchers)  - Industry Users (interested in standards & solutions)	
- <b>Public</b> (interested in answers they can understand)	
	1
Recent Changes	
Review     As an I3P-sponsored project, we were reviewed in September 2006.	
Focus was primary feedback.     Value of grey literature.	
Going Forward	
<ul> <li>Workshop outcomes</li> <li>Lesson plans and training materials</li> <li>Research team discussions</li> </ul>	
<ul> <li>Internal technical reports</li> <li>Random charts, planning sheets, thought papers, etc.</li> </ul>	
This was a recognition that no other organization was doing this in a systematic manner, making the information publicly accessible, or planning for its' long-term preservation.	

## **Grey Literature Produced by the Consortium**

- Not previously published through the standard or commercial publication channels.
- In a variety of formats and conditions.
- · May have use restrictions.
- · Authorship and/or ownership may be unclear.
- $\bullet\,$  Research value may be unclear hard to predict for the future.

## **Four Observations**

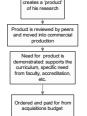
Research is messy - We are attempting to formally capture information that normally flows through an informal process.

Traditional collection development policies are structured documents aimed at assuring a level of quality in the collection, but also to satisfy the administrative needs to justify the expense of providing resources to an academic or research

Grey literature doesn't fit the formal model of scholarly communication, therefore the quality is suspect and is not adequately addressed in most collection development policies.

The research process and grey literature share similar attributes.

## **Traditional Collection Building Process**



roduct made available t students, faculty, etc.

- Linear
- Organized
- Information treated like a product
- Auditable
- Justifiable
- Predicable

• 'Easy' We Like this process!

## Build on the work of others Contact other researchers in the field Might get lucky Might change thinking/direction Might produce a technical report Might produce a technical report Might produce a technical report Might make major discovery Serendipity, Randomness, and Discovery – its messy out there! Peer reviewed journal article

# I3P Grey Literature Tangibles Samples of What Non-Traditional Items We Harvest Story Maps Project Fact Sheets Irregularly Published Bulletins These Resources Might Not be Collected Under a Traditional Collection Development Policy

## I3P Consortium Members - Grey Literature Collections

- National Laboratories: Collect their own in-house technical reports and training
  materials. These are generally not publicly accessible and do not appear in their
  catalog display open to the public.
- Academic Libraries: This resources would not be routinely collected, cataloged
  or preserved. May be stored in department files, sponsored research 'closed'
  project files, or in exceptional cases, the college archives.
- Not-for-Profit Research Organizations: Collect their own in-house technical reports and training materials. These are generally not publicly accessible. Library catalogs are not usually open to the public.

Researchers find out about these resources through an informal research network. The Digital Commons Project is attempting to make this process part of a formal collection 'access' policy.

## **Special Projects & Focus**

- $\bullet$  UC Davis Project- digitizing, preserving, and cataloging resources from the Computer Security History Project.
- Cyber Security Training Materials: This would be a great service to practitioners, students, and researchers, but many obstacles.

# Are We Being Used? Digital Library Digital Commons Services Other Digital Commons Services

## Conclusion

New Model for Collection Development Needed for Cyber Security

- Focus on the 'fruits' of research.
- Unique materials.
- $\bullet$  Not always easy to capture-new approaches are needed.
- Mirror social aspects of research.
- Acknowledge the value is subjective- future may determine value.



## A Public Health Grey Literature Knowledge Management Repository

## Debra Revere, Paul F. Bugni and Sherrilynne S. Fuller

University of Washingto, Center of Excellence in Public Health Informatics, School of Public Health & Community Medicine (United States)

<u>Problem</u>: Public health professionals rely heavily on grey literature which can often be the first and only source of information on a public health or health policy topic. However, while grey literature may contain comprehensive, concrete, and up-to-date information, the fugitive nature of this material makes access problematic. The public health community needs a knowledge management repository of grey literature and tools for easy and rapid access, so time spent searching across and through materials can be reduced.

<u>Goal</u>: Design a prototype public health knowledge management repository system and end-user interface with optimal interoperability and the capability to provide timely access to public health information in support of decision making at the point and time of need. Specification of an appropriate metadata schema, which identifies in a standardized way the elements needed to describe a resource, will be a critical part of the system.

<u>Procedure</u>: User needs analysis, user profiling, and resource assessment will inform understanding the information needs of public health professionals in the context of their everyday workflow and will enable identification of key grey literature knowledge resources for incorporation into the knowledge management system. Rapid prototyping will be utilized to translate these findings into system specifications and interface design of a small-scale prototype system. The prototype will define system components and interactivity both among components and with relevant external knowledge resources—for example, the New York Academy of Medicine's Grey Literature collection, web resources from the Centers for Disease Control and Prevention, Department of Health materials, etc. The collection of materials will be organized utilizing resource metadata (high level formal, standards-based descriptions of documents) to improve location of relevant grey literature.

<u>Anticipated Results</u>: We anticipate that testing and evaluation will likely result in modifications to the user interface, information resources, presentation of those resources, etc. We also anticipate that the metadata schema employed in a public health knowledge management system will improve the efficacy and efficiency of locating grey literature.

<u>Conclusions</u>: As the amount and breadth of public health information resources continue to expand it is critical that we find ways to provide direct access to the contents of these rich and complex resources. A public health grey literature knowledge management system with a collection of resources determined by the information needs of public health practitioners and organized using an appropriate metadata scheme could reduce time spent searching across and through materials, enhance public health decision making and ultimately improve the overall quality of public health services.

## **AUTHOR INFORMATION**

**Debra Revere**, MLIS, MA is Lead Research Scientist of the myPublicHealth Project at the Center of Excellence in Public Health Informatics and holds a Clinical Faculty position in the School of Public Health and Community Medicine at the University of Washington, Seattle, WA, USA. She also leads the Telemakus Project in the Department of Medical Education and Biomedical Informatics. Debra came to the UW in 1999 as a National Library of Medicine (NLM) Fellow in the Integrated Advanced Information Management Systems (IAIMS) Program. She has since worked on a number of biomedical informatics projects. In 2003 she received a Visiting Researcher appointment at NLM's Lister Hill National Center for Biomedical Communications to conduct research on applying NLM tools to automate text analysis and indexing of unstructured documents. Her research interests include examining the utility, application, and potential of text mining and indexing programs and spatial-semantic navigation tools for information seeking and retrieval within unstructured document collections.





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## **List of Participating Organizations**

(November 17, 2006)

American Psychological Association, APA/PsycEXTRA **United States** Arizona State University Libraries, AZU United States Battelle/CBIAC United States British Library, BL United Kingdom Centre National de Recherche Scientifique, CNRS France CCLRC - Rutherford Appleton Laboratory United Kingdom Dalhousie University, DAL Canada Dartmouth College; I3P **United States** East View Information Services **United States EBSCO Information Services United States** Federal Library and Information Center Committee, FLICC **United States** Federal Library and Information Network, FEDLINK **United States** Fisheries Library; Food and Agriculture Organization, FAO Italy Flemish Department of Economy, Science and Innovation Belgium Fred Hollows Foundation New Zealand Global Library Services Network, GLSN Australia Grey Literature Network Service, GreyNet Netherlands Information International Associates, IIa United States Institut de l'Information Scientifique et Technique, INIST France Istituto di Ricerche Popolazione e le Politiche Sociali, IRPPS Italy Istituto Superiore di Sanità, ISS Italy Japan Science and Technology Agency, JST Japan **United States** Labriola American Indian Data Center; ASU Library of Congress, LC **United States** Netherlands Library of Zeeland, ZEBI



**United States** Louisiana State University, LSU NASA-GFSC, Goddard Space Flight Center **United States United States** National Library of Education, NLE National Library of Medicine, NLM **United States** National Research Center, CNR Italy New York Academy of Medicine, NYAM United States **United States** New York University School of Medicine, NYU Office of Scientific and Technical Information, OSTI **United States United States** Oregon State University Pacific Open Learning Health Net; WHO Fiji **United States** Portland State University, PSU United States Department of Energy, DOE **United States** University of Bergen, UiB Norway University of Bucharest, UNIBUC Romania **United States** University of California, Irvine Libraries, UCI University of New Orleans, UNO **United States United States** University of South Florida, USF University of Washington; CPHI **United States** 



## Harnessing the Power of Grey

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Forthcoming Publications (Janua	ry 2006)	No. of Copies	x	Amount in Euros	Subtotal
GL8 CONFERENCE PROCEEDINGS - Prin ISBN 90-77484-08-6 ISSN 1386-23 Postage and Handling excluded*)			x	75.00 =	€
GL8 CONFERENCE PROCEEDINGS - CD-I ISBN 90-77484-08-6 ISSN 1386-23 Postage and Handling included			x	75.00 =	€
EXCLUSIVE OFFER: GL7 Conference Proceedings - CD-Rom With accompanying PowerPoint Preser Postage and Handling included			x	99.00 =	€
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	Other		x	20.00	€
				TOTAL	€
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Check one of the boxes below Direct transfer to TextRelease BIC: RABONL2U IBAN: NL70 R	e, Account No. 3135.	85.342, Ral	boba		
Bank check/draft made payab	ole to TextRelease, w	ith referer	nce to	o "GL8 Put	olication Order"
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Place:		Date	<u>:</u>		

NOTE On receipt of payment, an invoice marked paid will be sent to your postal address. If you require a pro forma invoice, please notify:





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## GreyNet

## Grey Literature Network Service

## Corporate Authors and Associates

ASSOCIATE MEMBERS ARE THE CORPORATE AUTHORS OF GREYNET'S PRINT AND E-PUBLICATIONS

GreyNet's main activity lies in "Corporate Authorship" of electronic and print publications as well as web resources. GreyNet is conscious of the fact that these valuable resources are made possible through the intellectual and financial contributions of leading organisations in the field of grey literature. These organisations fulfil a role that is beyond sponsorship, because they are *pari passu* responsible for the further development of GreyNet's content base, which currently includes:



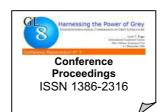














Recognition of the support of these Associate Members is duly manifest here and on all GreyNet's print and electronic publications.

## GreyNet Associate Members 2006



## **NLE, United States**

National Library of Education; U.S. Department of Education

## **INIST-CNRS, France**

Institute for Scientific and Technical Information; National Centre for Scientific Research





## **NYAM, United States**

The New York Academy of Medicine; Division of Information Management