

JTS 2004

Joint Technical Symposium

**Preserving the AudioVisual Heritage -
Transition and Access**

**June 24-26, 2004
Toronto, Canada**

For more information on JTS 2004 contact:

AMIA
1313 North Vine Street
Los Angeles, CA 90028
323.463.1500
fax: 323.463.1506
email: AMIA@amianet.org

The Joint Technical Symposium

The Joint Technical Symposium (JTS), which was first held in 1983, is the international gathering of organizations and individuals involved in the preservation of original image and sound materials. Held every three to four years, JTS provides an opportunity for colleagues around the world and those interested in the field to meet and share information about original image and sound preservation. Panel discussions, technical presentations and sessions, and special screenings will focus on preservation and restoration of the world's moving image and recorded sound heritage. Attendees traditionally include film/video/audio archivists, laboratory technicians and engineers, and film/video/audio preservation specialists drawn from a broad cross-section of institutions responsible for feature films, television (national, regional and local), independent productions, news film and amateur productions. For newcomers to this vibrant, dynamic and committed community, JTS provides an invaluable opportunity to learn what is happening in the field. This year the event is being held June 24-26, 2004 in Toronto, Canada, at the Isabel Bader Theater and being organized by the Association of Moving Image Archivists on behalf of the Coordinating Council of Audiovisual Archive Associations (CCAAA).

Coordinating Council of Audiovisual Archive Associations

Under the auspices of UNESCO (United Nations Educational, Scientific and Cultural Organization) Information Society Division, the Coordinating Council of Audiovisual Archive Associations (CCAAA) represents the interests of worldwide professional archive organisations with interests in audiovisual materials including films, broadcast television and radio, and audio recordings of all kinds. Although predominantly working in the public sector, we reflect a broad range of interests across the broadcast media, arts, heritage, education and information sectors. The professional archivists that CCAAA ultimately represents work in institutions such as archives, libraries and museums at national and local level, university teaching and research departments, and broadcasting organisations. The 2004 Joint Technical Symposium is a CCAAA initiative. Website: www.ccaaa.org

List of Current CCAAA Members

Association of Moving Image Archivists (AMIA)
International Association of Sound and Audiovisual Archives (IASA)
International Council on Archives (ICA)
International Federation of Film Archives (FIAPF)
International Federation of Library Associations and Institutions (IFLA)
International Federation of Television Archives (FIAT/IFTA)
Southeast Asia-Pacific Audiovisual Archive Association (SEAPAVAA)

Welcome to JTS 2004: Preserving the Audiovisual Heritage - Transition and Access

*Program Co-Chairs
Grover Crisp And Michael Friend*

Welcome to JTS 2004.

We would like to recognize and thank the Program Committee for their active, informed and engaging participation in bringing the 2004 edition of JTS together. This Committee has worked hard and given generously of their time to shape this year's Symposium. The result is a roster of presentations addressing a range of critical problems and issues now confronting technicians, asset managers and curators in our media world. This world is changing much faster today than it was four years ago when we held the JTS in Paris. The urban legend of a digital mediasphere has become an implemented reality, and we are faced not only with the increasingly urgent need to absorb the artifacts of the last century's media into this world, but also with the myriad problems of conserving a host of new media forms.

We would like to acknowledge our many collaborators and the participant organizations for sharing their knowledge and insights regarding the challenges of the moment, and for supporting and making possible the on-going public discussion that is the JTS.

We hope you will enjoy a beautiful three days in Toronto, and a challenging and enlightening Symposium.

The JTS 2004 Program Committee:

Ken Weissman - AMIA
Alfonso del Amo - FIAF
Henry Lindqvist - FIAT/IFTA
Lars Gaustad - IASA
Andris Kesteris - ICA
Bruce Royan - IFLA
Mick Newnham - SEAPAVAA
Grover Crisp (Co-Chair)
Michael Friend (Co-Chair)

It takes many people, working on behalf of many organizations to produce an event like JTS. We would like to thank the following ...

Our sponsors, for their generous support ...

UNESCO
Technicolor Creative Services
Cineric, Inc
Kodak
Deluxe Laboratories
Iron Mountain Film & Sound Archives
SDI Media Group
Hollywood Vaults

Organizations and their staffs ...

Jennifer Kocjancic and The University of Toronto, Warren Challis and Kathy Barnett and the Marriott Bloor Yorkville, Carla Carrusca and Matthew Desira and the Marriott Courtyard Downtown, Toronto Section of SMPTE, Robert James and the National Film Board of Canada, Bob Lancaster and ACVL.

Special Thanks to ...

Maria Blanco, Hans Burgschmidt, Christian Dimitriu, Dan Dimopoulos, Ray Edmondson, Marnee Gamble, Crispin Jewitt, Andris Kesteris, Sam Kula, Catherine Lacken, Sharon Larade, Mary Ledwell, Julie Lofthouse, Mary Rose V. Loria, Michael Martin, Steven Ricci, Mark Ritchie, Joie Springer, SMPTE Hollywood, Ivan Trujillo, Evelyn Wareham, and George Wharton.

The AMIA Office ...

Janice Simpson, Laura Rooney, Beverly Graham

Table of Contents

Welcome to JTS 2004

Program Committee	1
AMIA	4
FIAP	5
FIAT	6
IASA	7
ICA	8
IFLA	9
SEAPAVAA	10
UNESCO	11

Schedule at A Glance	12
Opening Night Reception	14
Opening Ceremonies	15
Session Abstracts	16
UNESCO Guests	45
Carolyn Hauer International Fund Award	49
JTS 2004 Attendees	50

Dear Colleagues,

On behalf of the Officers, Directors and members of the Association of Moving Image Archivists, you are most welcome to Toronto and JTS '04. This is the sixth Joint Technical Symposium and we are honored to be the host organization and to coordinate JTS on behalf of CCAAA.

In welcoming you to the beautiful city of Toronto, we also thank the Toronto Section of SMPTE for co-hosting the opening night reception. We also appreciate and acknowledge the support of our CCAAA colleagues and the JTS sponsors: UNESCO, Kodak, Technicolor Creative Services, Cineric Inc., Deluxe, SDI, Iron Mountain Film & Sound Archives, and Hollywood Vaults.

Our AMIA Office and the JTS Program Committee have worked to make this event most beneficial for all attendees and look forward to your experiencing a world class program. JTS is the most comprehensive showcase of the state-of-the-art in moving image and sound preservation featuring top experts in the field.

The AMIA Staff, Officers and Directors here are available to assist you in making your JTS experience most memorable. Enjoy!

Milt Shefter, President
AMIA

The **Association of Moving Image Archivists (AMIA)** is a non-profit professional association established to advance the field of moving image archiving by fostering cooperation among individuals and organizations concerned with the acquisition, preservation, exhibition and use of moving image materials.

Website: www.amianet.org

Dear Colleagues,

In the name of FIAF I would like to welcome you to the Joint Technical Symposium in Toronto.

FIAF is proud to be the partner of this very important event. I still remember the enthusiasm of the JTS in Berlin (West) in 1987. The possibility to discuss important technical questions with professionals from all parts of the world and from all areas of preservation concerning the audio-visual heritage was exciting. I do hope that this enthusiasm carries you through this year's JTS as well.

I would also like to take the opportunity to thank this year's host AMIA for the organisation of this event, and in particular Janice Simpson.

Sincerely yours,
Eva Orbanz
President FIAF

International Federation of Film Archives. Founded in Paris in 1938, FIAF is a collaborative association of the world's leading film archives whose purpose has always been to ensure the proper preservation and showing of motion pictures.

Website: www.fiafnet.org

Dear Colleagues,

As the President of the International Federation of Television Archives and co-organiser of the Joint Technical Symposium, I am very pleased to welcome all delegates from FIAT IFTA and from its sister organisations.

I would like to stress the importance of this symposium for FIAT: the cooperation between archive international bodies is essential: we share similar problems, especially those related to the safeguarding and preservation of our records; we will gain a stronger influence if we speak as one voice. It is the occasion to exchange our latest professional experiences and to benefit from each other's know how. It is also the occasion to meet the Canadian and American archivists and experts.

It gives me also the opportunity to invite you to the FIAT-IFTA 2004 conference which I'll have the honour to host. It will take place in Paris, next 15-19th October. The programme and the registration forms are on our web site: www.fiatifta.org/conferences. In 2005, the conference will be hosted by CBS in New-York.

I wish this JTS meeting every success!

Emmanuel Hoog
President of FIAT IFTA
Président Directeur Général of INA

International Federation of Television Archives

The International Federation of Television Archives (FIAT/IFTA) is an international professional association established to provide a means for co-operation amongst broadcast and national audiovisual archives and libraries concerned with the collection, preservation and exploitation of moving image and recorded sound materials and associated documentation.

Website: www.fiatifta.org

Ladies and gentlemen,
Dear Colleagues and Friends,

A growing proportion of the cultural legacy of the last 100 years is in the form of sound and moving image recordings. IASA aims to assist heritage institutions such as Archives, Libraries and Museums to preserve and to make accessible this part of the cultural heritage.

Since the Joint Technical Symposium in 1983, this event has been one of the main reference points for defining best practices and standards in the technical domain. We are convinced of the utmost importance of this event and hope that it will once more contribute to the progress of our profession.

Kurt Deggeller, President
IASA

The International Association of Sound and Audiovisual Archives was established in 1969 to function as a medium for international co-operation between archives that preserve recorded sound and audiovisual documents. IASA supports the exchange of information and fosters international co-operation between audiovisual archives in all fields, especially in the areas of: acquisition and exchange; documentation and metadata; resource discovery and access; copyright and ethics; conservation and preservation; and, research and publication.

Website: www.iasa-web.org

Dear Colleagues,

The International Council on Archives wishes the 2004 Joint Technical Symposium delegates a very successful symposium.

Sincerely,
Joan van Albada, Secretary General
ICA

The **International Council on Archives** is dedicated to the advancement of archives worldwide. Archives, by providing evidence of human activities and transactions, underlie the rights of individuals and States, and are fundamental to democracy and good governance. Archives safeguard the memory of mankind by preserving records of its past. In pursuing the advancement of archives, ICA works for the protection and enhancement of the memory of the world.

Website: www.ica.org

Dear Colleagues,

On behalf of IFLA I would like to welcome delegates to JTS2004. IFLA's deep interest in preserving the audiovisual heritage is shown in this year's publication of its Guidelines for AudioVisual Materials in Libraries and Other Institutions, and its sponsorship of an extended Programme entitled "Sights and sounds: preserving the new media" to be held on August 25, 2004 during the World Library and Information Congress in Buenos Aires. Work on audiovisual materials has until now generally been undertaken by specialists from different fields, often with no reference to each other, and JTS2004 will be a useful opportunity for them to exchange techniques and view their work from unfamiliar perspectives.

May I join with my other CCAAA colleagues in wishing you all an interesting, enjoyable and professionally productive symposium!

Professor Bruce Royan, Chairman
Audiovisual and Multimedia Section
IFLA

The **International Federation of Library Associations and Institutions** is the leading international body representing the interests of library and information services and their users. It is the global voice of the library and information profession. The Audiovisual and Multimedia Section of IFLA is the international forum for persons working with non-book media in every kind of library and information service.

Website: www.ifla.org

Dear Colleagues,

The Southeast Asia-Pacific Audiovisual Archive Association (SEAPAVAA) joins the other members of the Coordinating Council of Audiovisual Archive Associations (CCAAA) in welcoming the participants and guests to the 6th Joint Technical Symposium which will be held in 24-26 June in Toronto, Canada.

This joint symposium comes at a time when the audiovisual archivists are confronted with issues related to the emergence of digital technology in the preservation of our AV documentary heritage. Our presence in this occasion affirms our need to work together in addressing this common concern. I hope this Joint Technical Symposium results in meaningful exchange of ideas and possibly in the actualization and sharing of expertise and resources in our joint responsibility of preserving and providing access to our AV heritage.

Finally, I would like to extend, on behalf of SEAPAVAA, my deepest thanks and appreciation to the Association of Moving Image Archivists and other members of the CCAAA for their considerable effort and hard work in organizing this joint symposium.

Again, Congratulations to all!

Belina SB Capul

The **Southeast Asia-Pacific Audiovisual Archive Association** aims to provide a regional forum for addressing common issues and concerns related to the collection and preservation of, and provision of access to, the audiovisual heritage of member countries.

Website: www.geocities.com/seapavaa

Dear Colleagues,

On the eve of the 25th anniversary of its **Recommendation for the Safeguarding and Preservation of Moving Images** which signalled the start of global recognition of audiovisual collections as part of the heritage of humanity, UNESCO is pleased to be a sponsor of the 6th JTS, the leading event for specialists and archival professionals to discuss issues of vital concern to their profession.

Vast segments of the world's global heritage have already been irremediably lost and the potential exists for far more losses through diverse factors ranging from decay and obsolescence of formats, natural catastrophes and ignorance. Since 1980, UNESCO has undertaken a number of actions to ensure the long-term safeguarding of the audiovisual documentary heritage. Many of these have been implemented through its Memory of the World Programme, a global initiative that seeks to raise awareness of the importance of documentary heritage and the need to preserve it.

Joie Springer
Information Society Division
UNESCO

The **United Nations Educational, Scientific and Cultural Organization (UNESCO)** is mandated by its Member States inter alia to promote the free flow of ideas by word and image, to foster international co-operation in the fields of communication and information in order to narrow the gap between the "information rich" and the "information poor" in these areas and to promote access for all to ICTs.

Schedule At A Glance

WEDNESDAY JUNE 23, 2004

3:00pm Tour of the NFB Mediatheque
 5:30pm Buses leave Isabel Bader Theatre for Opening Night Reception
 6:00pm Opening Night Reception
 9:30pm Buses leave Sheridan College

THURSDAY JUNE 24, 2004

7:30am Coffee available in the Bader Lobby
 8:15am Welcome
 9:00am Canadian Audiovisual Vault Inventory Report
 9:30am Digitally Generated Color Separation Masters
 10:00am Use of Color Separations for Preserving Visual Metadata Information in Digital Intermediates
 10:30am BREAK
 11:00am Audiovisual Content in the Digital Domain – Digital
 Mass Storage Systems for Archives; ScreenSound Australia Report
 11:30am National Library of Norway Report
 12:00pm Library of Congress Report
 12:30pm BREAK
 2:00pm Disaster Avoidance and Recovery of Magnetic Tapes: Key Findings From a 20-Year Study
 2:30pm International Standards on Preservation of Information
 Recording Materials
 3:00pm PrestoSpace: Preservation Toward Storage and Access Standardised Practices for Audiovisual Contents in Europe
 3:30pm Coffee available in the Bader Lobby
 4:00pm Abandoning Analog: Digital Media: Advantages and Liabilities
 4:30pm Abandoning Analog: Facing the Inevitable - Waving Goodbye to Analog Tape and Hello to Digital Files
 5:00pm Abandoning Analog: Abandoning Analog in the Music Recording Industry - From a Commercial Perspective
 5:30pm Abandoning Analog: Requirements for Archiving Digital Media Content

*The Isabel Bader Theatre
 is located on the grounds of
 Victoria University.
 93 Charles Street
 Toronto, Ontario.*

Schedule At A Glance

FRIDAY JUNE 25, 2004

7:30am Coffee available in the Bader Lobby
 8:30am Web-Based Heritage Documentation
 9:00am An Archivist's Introduction to Digital Image Science
 10:00am How Many Pixels In "Lawrence Of Arabia"?
 10:30am BREAK
 11:00am Digital Archiving Through OpenEXR
 11:30am Digital Re-Registration of Separations
 12:00pm Restoration of Smooth Pitch Variations Over Long Timescales - "Wow"
 12:30pm BREAK
 2:00pm Panel Presentation: Understanding High-Magenta, Cyan-Dye and Red LED Readers - Implications and Strategies for Optical Soundtrack
 3:30pm Coffee available in the Bader Lobby
 4:00pm VisualAudio: An Optical Preservation Technique for Phono graphic Recordings
 4:30pm Policy Guidelines on the Production and Preservation of Digital Audio Objects
 5:00pm Restoration of the "Cinemascope 55" Widescreen Format
 8:00pm Special Restoration Screening

SATURDAY JUNE 26, 2004

7:30am Coffee available in the Bader Lobby
 8:30am Longevity of Tape and Optical Media Testing — ISO Standards
 9:00am Twenty Years After: Degradation Survey of a Large Collection of Optical Discs
 9:30am Assessing Storage Environment for Mixed Media Collections: The IPI Media Storage Quick Reference
 10:00am The Effect of Washing Films Affected by Vinegar Syndrome
 10:30am BREAK
 11:00am Long Term Storage of Video: Data Tapes
 11:30am Long Term Storage of Video: Archiving on Hard Disk Drives
 12:00pm Long Term Storage of Video: New Ways to Migrate Video
 12:30pm BREAK
 2:00pm Digital Archiving Strategy for Production Archives: A Pragmatic Starting Point
 2:30pm The Application of New Technologies for an Automated System for Audio and Video Migration
 3:00pm Linear Uncompressed Video Archiving on High Performance Computer Tapes
 3:30pm Coffee available in the Bader Lobby
 4:00pm FIRST – Film Restoration and Conservation Strategies
 4:30pm Open Forum

Opening Night Reception

Wednesday, June 23, 2004
Sheridan College's Trafalgar Road Campus
6:30pm - 9:30pm

JTS 2004 is pleased to welcome symposium delegates to the Opening Night Reception. Our co-host this evening is the Toronto Section of the *Society of Motion Picture and Television Engineers (SMPTE)*. SMPTE is co-hosting this event as part of their Annual Summer BBQ Dinner Meeting. This will be an excellent opportunity for JTS attendees to meet and interact with local Toronto SMPTE members.

The Animation Program at Sheridan College is known the world over for its creative excellence. Sheridan Alumni will take reception attendees on tours of the Animation, Design and Emerging Technology buildings.

Speakers:

6:30pm Randy Conrod, Chair, Toronto Section of SMPTE
6:35pm Welcome to Sheridan College
6:40pm Belina Capul, Chair, Coordinating Council
of Audiovisual Archive Associations
6:45pm Harvey Rogers, Alliance-Atlantis
7:00pm Leon Silverman, LaserPacific Media Corporation

Buses will leave from Isabel Bader Theatre at 5:30pm. Buses will return from Sheridan College at 9:30 pm and will drop off at the University of Toronto, the Courtyard Marriott Hotel, and the Bloor Marriott Hotel.

*Catering is provided and sponsored by
Carolyn Kinzie of Masstech Group.*

JTS Opening Ceremonies

Thursday, June 24, 2004 - 8:15 am

The CCAA welcomes you to JTS 2004!

Though held for the first time in 1983, this is the first JTS that has been held under the auspices of the CCAA. It is a true worldwide gathering of the moving image and sound archival community and an opportunity to address the preservation issues of our audiovisual heritage.

Milt Shefter, Host

Association of Moving Image Archivists

Ian Wilson

National Archivist, Archives and Library Canada

Crispin Jewitt

Convenor, Coordinating Council of Audiovisual
Archive Associations

International Federation of Film Archives

Boris Todorovitch

International Federation of Television Archives/Fédération Internationale des Archives de Télévision

Emmanuel Hoog

International Association of Sound and Audiovisual Archives

Kurt Deggeller

International Council on Archives

Marcel Caya

International Federation of Library Associations and Institutions

Bruce Royan

Southeast Asia-Pacific Audiovisual Archive Association

Ray Edmondson

Association of Moving Image Archivists

Milt Shefter

JTS Program Committee Co-Chairs

Grover Crisp and Michael Friend

Canadian Audiovisual Vault Inventory Report

In 2003, The AV Preservation Trust commissioned a survey to assess the size and scope of the many facilities that conserve Canada's Audiovisual Heritage. Among the issues and concerns identified by the custodians are the lack of funding for processing and cataloguing all the assets they have on hand. The need for better-adapted environments for those elements that are jeopardized by advanced deterioration (such as films affected by the "vinegar syndrome" that require cold storage to slow down this decay) remains an important issue as fewer than 20% of the facilities surveyed provide appropriate storage conditions.

Although the larger vaulting facilities such as the CBC, the NFB and the Library and Archives Canada have not yet reached their full capacity, the smaller and more diversified regional facilities (public and private) are unable to cope with the growing demand for space to store audiovisual assets.

This report will present the findings of this study that provides an overview of the current situation in Canada. While highlighting many of the technical shortcomings of Canada's audiovisual vault facilities, it also underlines the growing efforts (technical and otherwise) that are being deployed to improve the situation in both public and private sectors.

*by René Villeneuve
Villeneuve Media Technologies, Inc.
Executive Vice-President, SMPTE 2003-2004*

Digitally Generated Color Separation Masters

The latest film-to-digital-to-film post-production process for motion pictures, the Digital Intermediate, represents a new problem for preservation, and perhaps also a new opportunity. The data files which source these intermediates are often fugitive and difficult to recover or deploy by the time the film has entered the "library" phase of its existence. Data files captured on LTO or DFT2 data tapes are sitting on vault shelves of production companies or in archives in untested form. But these files do offer the possibility of recording out perfectly matched and registered black-and-white color separation masters at the same resolution as the digital intermediate, and these synthetic elements may comprise a part of a preservation regime for the Digital Intermediate. The test material to be screened was scanned at 4k, processed at 2k and recorded back out to color separations at 4k, then recombined and printed conventionally.

*by Phil Feiner
President, Pacific Title and Art Studio*

Session

June 24, 2004 - 10:00 am

JTS
2004

Use of Color Separations for Preserving Visual Metadata Information in Digital Intermediates

The deployment of digital intermediate technology for the production of feature films presents an acute problem for preservation. Should YCM color separation masters be made from the digital intermediate negative or from the original scanned negative? The original film negative contains more information than is captured with today's ubiquitous 2K scanning, intermediate processing and recording technologies. However, the original negative lacks certain critical visual data, such as color correction and spatial information that will only be introduced at the image manipulation phase of the digital intermediate process.

Preservation of the digital intermediate negative through conventional YCM color separation manufacturing is not a preferred choice for several reasons, including the expected generational loss of resolution, which is characteristic of that process. Separations made from the original scanned negative will lack the added metadata inherent in the digital intermediate process. Therefore, additional steps need to be taken to ensure the metadata is archived and retrievable. Just saving metadata generated in the digital intermediate process on data tapes is not necessarily an economically viable alternative and the value of that data in the future is questionable due to the rapid evolution of digital systems and format obsolescence.

This paper will cover details about these problems and particularly the fragile nature of digital data. The authors will present a viable method for the preservation of visual metadata information using a combination of traditional film manufacturing tools and digital technology.

*by Josh Pines, Technicolor Digital Intermediate
Jim Fancher, Thomson Corporate Research*

Preserving the Audiovisual Heritage - Transition and Access

Audiovisual Content in the Digital Domain – Digital Mass Storage Systems for Archives

Archives are currently grappling with the necessity of building huge file storage systems to manage a wide variety of media. This presentation will provide an update on the evolution and experiences of specific archives in implementing Digital Mass Storage Systems.

ScreenSound Australia Report
by Ian Gilmour
National Library of Norway Report
by Trond Teigen
Library of Congress
by Mike Handy

Chaired by Ian Gilmour

Preserving the Audiovisual Heritage - Transition and Access

Session

June 24, 2004 - 11:00 am

JTS
2004

Disaster Avoidance and Recovery of Magnetic Tapes

Key Findings From a 20-Year Study

In recent years, many archives and repositories have been threatened or damaged by severe flooding, earthquakes and acts of terrorism. The effects of these disasters can seriously compromise records stored at these repositories.

Over the past half century, an enormous amount of data has been archived on magnetic tape and, when disasters strike, whether natural or man-made, this data is at risk. In order to protect valuable economic and cultural records, it is necessary to have a basic understanding of what happens to magnetic tape in various disaster scenarios and what steps have been successful in minimizing losses.

For over two decades, an ongoing study has been examining thousands of tapes from multiple disaster sites around the world. Recurring exposure patterns have been identified and the effects of various disaster scenarios on the media have been analyzed. Numerous recovery procedures have been tested and methods of restoring tapes to usable condition have been developed, refined and successfully applied. Observations have also been made on the mishandling of compromised tape material and the negative effects that can result from the application of inappropriate protocols.

This paper will provide an overview of findings on what has and has not proven successful in protecting and recovering magnetic tapes from actual disasters. It is based on the examination of tapes recovered from a wide variety of disaster sites. It will discuss general damage patterns observed and highlight a few key damage avoidance measures that proved highly effective at protecting materials and minimizing loss at the disaster sites where they were employed. It will also review handling techniques and recovery protocols that have repeatedly proven successful at maximizing the recovery of compromised tapes and which protocols may not be appropriate with some formats.

by Peter Brothers

International Standards on Preservation of Information Recording Materials

The value of recorded information has become of increasing importance as materials age and data is lost. This has resulted in a marked increase in standardization activities by the International Standards Organization. Today there are twenty-one published standards in this field, of which eleven have been printed since the paper on this topic at the Paris 2000 Joint Technical Symposium. An additional ten standards are in various stages of development. This paper is a review of the progress during the past four years and a discussion of current activities.

by Peter Z. Adelstein
Image Permanence Institute, Rochester Institute of Technology.

PrestoSpace: Preservation Toward Storage and Access Standardised Practices for Audiovisual Contents in Europe

The project's objective is to provide technical solutions and integrated systems for a complete digital preservation of all kinds of audio-visual collections. Institutions traditionally responsible for preserving audio-visual collections (broadcasters, research institutions, libraries, museums, etc.) now face major technical, organisational, resource, and legal challenges in taking on the migration to digital formats and the preservation of already digitised holdings. Technical obsolescence and physical deterioration of their assets imply widely concerted policy and efficient technical services to achieve long-term digital preservation. The principal aim is to build-up preservation factories providing affordable services to all kinds of collection's custodians in order to manage and distribute their assets. Coordinator for the PrestoSpace initiative is the Institut National de l'Audiovisuel, with participation from approximately 35 additional European partners, including film collections, audio and video archives, and a range of industrial and academic technology providers.

Presentation by Daniel Teruggi

Head of Research, Institut National de l'Audiovisuel, France

Abandoning Analog: The Case for Digital Audio Archiving

The archive world has hotly debated the concept of digital archiving of sound and picture assets for a number of years. Compression, a sore sticking point for image archiving, is fortunately not an issue for digital sound archiving, as the decreasing cost of digital storage has made high resolution audio, 48kHz - 96kHz at 24 bits a practical reality.

As more and more original and restored audio content is created digitally it becomes difficult to press the issue of making analog "archive" copies. Yet this continues to be standard practice in many quarters as part of a long experience in the reliability of analog recordings. Perhaps the "just-in-case" analog copies may no longer be necessary with improvements and understanding of digital audio asset management.

Abandoning Analog: The Case for Digital Audio Archiving is a panel of leading industry experts with representatives from motion picture post-production, the record industry, digital asset management enterprise, and digital storage technologies. Each will present, from their area of expertise, the key criteria and advantages of digital audio archiving that demonstrate archival analog assets are no longer required.

Digital Media: Advantages & Liabilities

By Keith Watanabe

Keith will compare and contrast archival performance characteristics of typical post-production analog and digital media. He will discuss the opposing interests of computer technology companies versus archivists needs. Keith will detail several industry instances that will aid in navigating this digital path forward.

Facing the Inevitable: Waving Goodbye to Analog Tape and Hello to Digital Files

By Larry Blake

In spite of the fact that all indicators show that analog recording won't be around for much longer, major movie studios persist in the delusion that they are being responsible by backing up their film sound material to analog formats. This paper will outline the backup method utilizing hard drives and data tapes that is better, less expensive, and faster than current analog techniques. The presenter will be wearing a Kevlar vest.

Abandoning Analog in the Music Recording Industry:

From a Commercial Perspective

By John Spencer

Today, most commercial recording projects utilize some type of digital recording technology. It may be used in the creative process itself or in the creation of digital files that are distributed to the public. Analog tape is usually employed for its subjective sonic characteristics, sometimes referred to as "warm" or "less harsh than digital". For those projects that are born digital, an analog copy is *NOT* an exact copy. Many commercial record labels are in the process of changing delivery requirements to reflect the changing landscape of how recordings are made, also eliminating the need for analog "safeties". Institutions will have to follow this trend using Enterprise IT best practices as libraries increase their digital holdings. The eventual demise of analog tape manufacturing will only intensify the need for a digital infrastructure.

Requirements for Archiving of Digital Media Content

By Gavin Schutz

The proliferation of digital media content - and the ability to generate derivative works at will - represents a unique challenge for the archivist. In addition to rapidly developing standards for file and network based content, the archivist must deal with emerging technologies relating to versioning, encryption, watermarking and DRM as part of the overall effort in preserving the value and longevity of the asset. I will cover some of the issues that must be addressed as part of the preservation process and offer some solutions designed to accommodate migration to the new media platforms.

Panel Presentation Coordinated by

Robert Heiber

President, Chace Productions

Web-Based Heritage Documentation

A report on the use of Open Archive Initiative protocols to make cross-platform database searches possible through one interface. This approach allows for on-line access to tens of thousands of documents originated in a wide variety of formats, from film to technical drawings and periodicals, from corporate document archives to radio programs. This paper details a specific project to document the industrial and cultural heritage memorabilia related to an offshore oilfield in Norway

*by Lars Gaustad
National Library of Norway
Chair, Technical Committee, IASA*

An Archivist's Introduction to Digital Image Science

Image archivists are faced with a bewildering array of digital image capture, storage, and display devices. The characteristics of these devices have a strong influence on image quality, but it is often unclear to the archivist how to choose among competing devices, and what device parameters to use for capture, duplication, storage, or display of particular kinds of imagery.

In this tutorial, we will present the fundamental aspects of image science as it applies to digital continuous-tone imagery (both still and moving). We will explain how tone, color and detail are represented in the digital domain. We will explain the importance of the nonlinear coding of lightness in digital image systems, and outline the foundations of accurate reproduction of color. We will explain the capture, storage, and display of spatial detail, culminating by explaining why sharp images are not always good and blurry images are not always bad. Upon the completion of the tutorial, you will be able to estimate how many megabytes (or megabytes per second) are required to represent imagery at a given quality level.

by Charles Poynton

How Many Pixels In "Lawrence Of Arabia"?

As archivists and restoration specialists are now using digital imaging systems to provide a digital record, and often use digital imaging tools to "restore" lost or degraded image content, it will become increasingly important to have the means to assess the data content of images prior to digitization. This will be important both to ensure that the techniques employed do not reduce the information content of the original images and, equally important, do not over-sample unnecessarily. The latter is critical because many images of historical or cultural importance may have no immediate or obvious commercial value and the cost of digital archiving and restoration will often be a determining factor in deciding whether or not to digitize and "restore" the image content.

Imaging specialists have many tools to examine the performance of lenses, film emulsions, cameras, etc., and to predict the cascaded performance of imaging systems. However, these techniques, useful as they are in predicting final image content before the fact, tell us nothing about the information content of the existing image.

This paper will first examine the latest techniques used in image system analysis using, as an example, the original camera and lens system employed in the photography of "Lawrence Of Arabia". This will be correlated with an experimental technique used to determine the information content of existing images.

by Dr. William Glenn, Florida Atlantic University
John Galt, Panavision
James Pearman, Panavision

Digital Archiving Through OpenEXR

OpenEXR is a high-dynamic-range image file format that was originally created for digital visual effects production. The file format has been designed to represent images from a variety of sources (film, digital cameras, computer graphics, etc.) as faithfully as possible, without compromising on image quality and without requiring excessive amounts of storage. The format is reliable and has been tested extensively in production on millions of image files.

In 2003, after validating OpenEXR by using it extensively in production, ILM released the new format as open-source. The format is free and the source code is publicly available, under a royalty-free license that allows integrating OpenEXR into commercial and open-source software. This presentation will discuss the attributes that, while specific to OpenEXR - floating point pixel data, lossless data compression, image channels that extend beyond RGB, attributes in the file header for storing image information, simple implementation as C++ library - should make this file format a suitable option for archiving images digitally.

by Florian Kainz
Industrial Light and Magic

Digital Re-Registration of Separations

A recent project at Cinesite in Los Angeles involved full restoration of the film "Williamsburg: The Story Of A Patriot" from 35mm Vista Vision separation masters. This work involved defect and scratch detection and repair, dye-fade correction, color correction, and re-registration of the Vista Vision separations. Cinesite used existing digital techniques for some of this work, and developed new techniques to address other areas.

In particular, this presentation concentrates on recombining scanned film separations in an automated digital framework. Manual alternatives are labor-intensive and error-prone. By making use of image deformations and channel matching within an efficient sampling framework, the technique robustly re-registers scans from Academy to Vista Vision format.

*by Andrew Bonello
Cinesite, Los Angeles*

Restoration of Smooth Pitch Variations Over Long Timescales - "Wow"

You can encounter smooth pitch variation over long timescales ("wow") on almost any analogue recording medium, and it is one of the most disturbing artifacts encountered when listening to old and/or badly transcribed recordings. There are several mechanisms by which this can occur. One is a variation of the rotation speed of the medium during recording or playback. A second, specific to discs, is eccentricity in the playback process. A third occurs when magnetic tape stretches unevenly during playback or storage.

In some cases it is possible to make mechanical corrections for these defects, but such approaches are generally impractical. Therefore, this paper outlines a signal processing approach for the detection and correction of wow, in which we use the degraded audio to estimate the instantaneous amount of pitch variation, and then recreate the undamaged signal from the existing data. The approach used is as general as possible in order to correct a wide range of related defects.

*by Gordon Reid
Cedar Audio, United Kingdom*

Session

June 25, 2004 - 2:00 pm

JTS
2004

Understanding High-Magenta, Cyan-Dye and Red LED Readers - Implications and Strategies for Optical Soundtracks

The biggest change in optical soundtrack technology since the introduction of the digital optical sound formats in the early 1990s is currently underway. These changes - high-magenta and cyan dye optical soundtracks and red LED (light emitting diode) readers - have a significant impact on asset managers, archives, restoration professionals and repertory exhibition. This presentation will explain how these changes in optical soundtrack technology affect not only the sound elements in storage but also the creation of new soundtracks for the future. The background surrounding this change and the current status of this transition will be discussed. Audio examples will demonstrate problems that may be encountered and the panel will present strategies for dealing with the issues that range from exhibiting legacy material on red LED readers to using tracks manufactured prior to this change for new prints. Guidelines will be distributed to attendees.

Panel Speakers:

Dr. Alan Masson, Eastman Kodak Co
Douglas Greenfield, Dolby Laboratories

*Panel Presentation Coordinated by Robert Heiber
President, Chace Productions*

Preserving the Audiovisual Heritage - Transition and Access

VisualAudio: An Optical Preservation Technique for Phonographic Recordings

The optical retrieval technique called VisualAudio provides a way to retrieve sound information from an analog disk without any mechanical contact. The process is straightforward: we take a picture of each side of the disk using a dedicated analog camera, and we scan the film and process the image in order to extract the sound. It can be used to retrieve the sound of old records that are in such bad shape that no regular stylus and turntable can be used. A working prototype has been built and has retrieved the sound from several records.

Project coordinators:

Ottar Johnsen, Frédéric Bapst, Christoph Sudan,
Sylvain Stotzer - Stefano S. Cavaglieri, Pio Pellizzari
Ecole d'Ingénieurs et d'architectes de Fribourg - Fonoteca
Nazionale Svizzera

*by Sylvain Stotzer
Ecole d'Ingénieurs de Fribourg*

Preserving the Audiovisual Heritage - Transition and Access

Session

June 25, 2004 - 4:00 pm

JTS
2004

Policy Guidelines on the Production and Preservation of Digital Audio Objects

Audiovisual archives hold a responsibility for the preservation of cultural heritage covering all spheres of musical, artistic, sacred, scientific and communications activity, reflecting public and private life, and the natural environment, held as published and un-published recorded sound and image. This paper presents a forthcoming document, which sets out IASA policy in the form of guidelines, and is intended to provide guidance to audiovisual archivists on a professional approach to the production and preservation of digital audio objects. This includes the production of digital surrogates from analogue originals for the purposes of preservation, as well as the recording of original material in digital form intended for long-term archival storage. This document concerns itself with sound carriers or formats, but not with piano rolls, MIDI files or other systems, which are player directions rather than encoded audio. The Guidelines are produced by members of the IASA Technical Committee.

by Dietrich Schüller

Phonogrammarchiv - Austrian Academy of Sciences

Restoration of the "Cinemascope 55" Widescreen Format

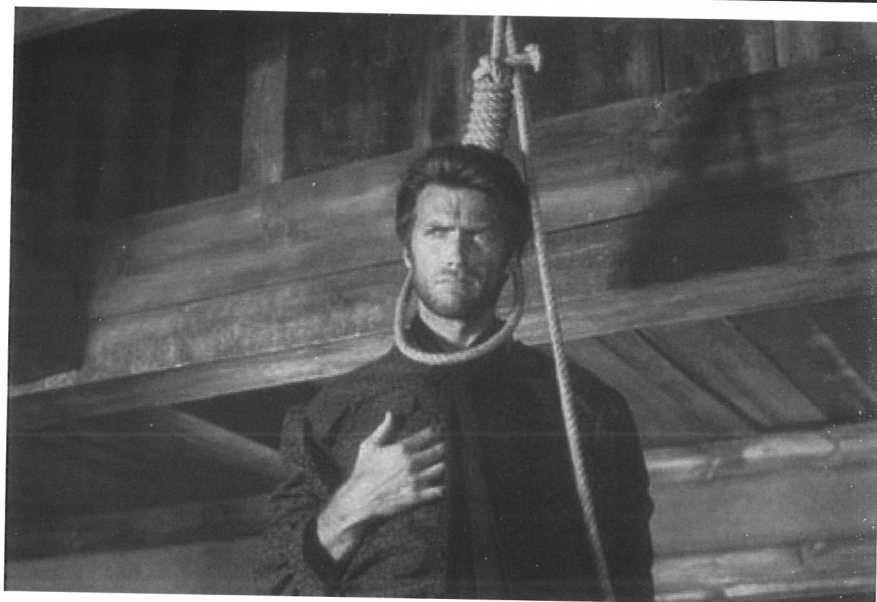
When the 35mm Cinemascope format became popular in the mid-1950's, 20th Century Fox film corporation decided to create a unique format that they called Cinemascope 55. This format was a 55mm wide by 8 perforations high image produced using custom made anamorphic lenses. Since the format was used on only two films, "The King and I" and "Carousel", and the 55mm format was not a successful one, preservation of these titles from the original negatives has been problematic.

This presentation will outline the steps needed to work from the original 55mm camera negatives to restore the films. A new 55mm wet gate optical printing system was developed. This new system had to deal with the issues of smaller than normal perforations, recombination of badly shrunken separation masters, repairing severely faded opticals, and repairing torn sections of the negative that could only be remedied with 4K scanning and digital manipulation. Illustrating this presentation will be a newly made film, shot in scope, detailing the step-by-step processes involved in the development, machine engineering and printing techniques used to complete the project. The project highlights common and inherent archival issues related to creation and implementation of methodologies for preservation of obsolete or unique formats.

*by Balazs Nyari and Simon Lund
Cineric, Inc., New York*

Screening

June 25, 2004 - 8:00pm



The Good, the Bad and the Ugly

The Restored, Extended Version

Clint Eastwood stars in one of the most stylistically influential western films ever made. This epic from director Sergio Leone has been restored to its original version with 18 minutes of additional footage, featuring new English audio track recordings for the added footage that previously existed only in the original Italian version. This extended English language version includes a remixed 5.1 Dolby Digital soundtrack.

Picture restoration by Triage. Sound restoration, ADR and remixing by Intersound. Print courtesy of MGM Studios, with special thanks to John Kirk.

Longevity of Tape and Optical Media Testing — ISO Standards

A report on the work of the ISO TC42 WG-5/AES SC03-04 Joint Technical Committee. Formerly being conducted by the ANSI/PIMA committee, this will provide an update on the tape and optical media tests and the progress of care and handling guidelines. A discussion of the progress of this research in the international context of standards and policy guidelines, incorporating ISO, AES, SMPTE, and how they relate to the IASA, AMIA and FIAF guidelines.

Session

June 26, 2004 - 8:30 am

JTS
2004

*by Ian Gilmour
Senior Manager, Preservation and Technical Services, ScreenSound Australia
Chair, AMIA Preservation Committee*

Twenty Years After: Degradation Survey of a Large Collection of Optical Discs

Compared to challenges such as analogic formats obsolescence or archival data management, safeguarding our contemporary audio and video heritage on stamped optical discs can look a minor issue. As far as one has experienced until now, this type of carrier benefits from chemical stability, mostly superior to that of WORM carriers, for example.

However, several series of CDs and more recently DVDs are known to have degraded notably in just a few years, due to defective manufacturing processes. Knowledge concerning this problem has been shared by publishers, archives and individuals when the degradation process has grown fast and obvious. Now, for heritage purpose, it is necessary to trace the decay of carriers as soon as possible, before they can be perceived in playback, in order to organize migration to new carriers.

Bibliothèque nationale de France's Audiovisual Department began in 2002 a systematic survey of its collections (200,000 CD, 10,000 DVD). It started with a series known for important defects. But beyond this simple control, BNF engaged a comprehensive investigation year-by-year of samples.

This paper will address the technical and statistical issues of the survey: equipment, method of sampling, test parameters, interpretation of the results. It will also provide the results found so far.

*by Alain Carou
Bibliothèque nationale de France,
département de l'Audiovisuel – Section conservation*

Assessing Storage Environment for Mixed Media Collections: The IPI Media Storage Quick Reference

Identifying Suitable Storage Environment for the Preservation of Mixed Media Collections: The IPI Media Storage Quick Reference

Since storage is the single most important factor for preserving media stability, IPI has focused on developing environmental-based preservation strategies. It is recognized that climate conditions impact the physical survival of films, audio and videotapes, photographs, CDs and DVDs. Each medium has its own needs in terms of optimum storage, and standard recommendations reflect these requirements. As a result, a given storage may provide a suitable environment to one media and cause damage for another type of media. Archivists dealing with mixed media collections are often facing that dilemma. Most important questions are: Is the current storage environment adequate? What environment does the collection need? Often, environmental compromises may be the only practical way to go. The IPI Media Storage Quick Reference (MSQR) was developed to assist archivists in making informed decisions for a wide range of materials either kept in separate storage, or as it is more likely, as mixed media collections.

This presentation will provide basic information in terms of media stability, will develop a simplified strategy for optimizing the life span of mixed media collections, and introduce the MSQR, a new tool for collections managers.

*by Jean-Louis Bigourdan
Image Permanence Institute, Rochester Institute of Technology*

The Effect of Washing Films Affected by Vinegar Syndrome

An investigation of the effects of washing motion picture film in water and 0.1 M sodium acetate. New cellulose triacetate films were used for the experiment. Six types of samples were tested. A batch of acetate film (Orwo) was produced with and without emulsion. Three samples from each were made consisting of new films, slightly aged films and highly aged films (artificially aged at 90 °C and 50 % RH). The different samples were washed and afterwards incubated at 60 °C and 50 % RH for 10 months. Sampling was done every month and Water-Leach Free Acidity Test, infrared spectroscopy (ATR-FTIR) and shrinkage were used to examine the results. There is an initial indication of lower acidity in the films washed with sodium acetate, if the treatment was performed just before the film reached the autocatalytic point. The presentation will examine the test results for statistical significance and conclusions.

by Karin Bonde Johansen
Danish Film Institute

Long-Term Storage of Video in the Digital World

It is now possible to store over two hours of uncompressed high-quality video on a single medium and at a reasonable cost. This savings in space and cost means that Hard Disk Drives or DataTapes are the answer to our search for an archival digital medium for video.

What are the pros and cons of these new technologies as archival media for video?

The speakers will discuss these new concepts for storage of digital video, the costs and densities of the Hard Disk Drives or DataTapes that are on the market now, and the advantages of storing video in data formats rather than conventional video formats.

Panel Speakers:

Ian Gilmour
ScreenSound Australia
DataTapes

Jim Wheeler
Tape Restoration and Archival Services
Archiving on Hard Disk Drives

Jim Lindner
Media Matters
New Ways to Migrate Video

Panel Presentation Coordinated by Jim Wheeler
Tape Restoration and Archival Services

Session

June 26, 2004 - 2:00 pm

JTS
2004

Digital Archiving Strategy for Production Archives: A Pragmatic Starting Point

An increasing number of broadcasters and organizations are considering the digitization of their media archives. Implementing digital media libraries so as to ensure the proper preservation of legacy archives has been recognized as a priority. Yet, many organizations are faced with a paradox: although strategic, these digitization projects are postponed because of budgetary constraints. As a result, little attention is paid to the opportunity and necessity to archive day-to-day programming and use that as a starting point of a digital archiving campaign. This paper, a follow-up to one recently presented to AES in Berlin, discusses several case studies and suggests a new approach to implementing a pragmatic archiving strategy - one that will get approval and support from management.

by Nicolas Hans and Johan de Koster

Preserving the Audiovisual Heritage - Transition and Access

The Application of New Technologies Required for an Automated System for Audio and Video Migration

In order to build a next generation system for the automated migration of AV content to either Tape or Files - new technology needed to be invented that was not available. These technologies included:

A new robotic handling system designed to handle different formats gently and reliably for automatic insertion into VTR's and other processing equipment.

A new system that analyzes the audio and video quality on a frame by frame basis in real time and detects errors and logs them, as well as providing information to an "expert system" that uses artificial intelligence to make assessments on the quality of the tapes being played back and makes adjustments as necessary.

A new tape cleaning system that actually finds physical defects on the tape while cleaning the tape.
Encoding systems to digitize the content in real time, as well as a series of management systems that allow the entire system to be monitored remotely and run on site in an archive.

Central to the research and conclusions of the PrestoSpace projects, this presentation will briefly describe how these individual components work as well as how they work together as part of a larger system that changes the way that migration of content will be done. This presentation will also briefly discuss the need for Lossless compression and some of the requirements of such a format for archival applications.

by Jim Lindner, Media Matters, LLC

Preserving the Audiovisual Heritage - Transition and Access

Session

June 26, 2004 - 2:30 pm

JTS
2004

Linear Uncompressed Video Archiving on High Performance Computer Tapes

A large percentage of video footage recorded during the last four decades used analogue signal representation. High-quality archiving of this material is possible - even under the restrictions set by the limited budgets of small archival institutions - by applying accurate digitisation and storage in a linear, uncompressed form.

Magnetic tape proves to be a viable target storage medium at present and for the foreseeable future, especially when high-performance computer tapes are used that have been designed for reliable and fast data storage for critical applications requiring high data security.

Our paper gives a survey of our PC-based archival system and explains the qualitative, technical and financial aspects that led to the system configuration. It discusses the advantages and the drawbacks for the archival process and explains the current workflow and the different forms of access for the user. Finally it offers guidelines for future additions and possible adaptations to upcoming standards.

*by Franz Pavuza and Julia Ahamer
Phonogrammarchiv, Austrian Academy of Sciences*

FIRST

Film Restoration and Conservation Strategies Towards Standards and Recommended Practices in Archival Films, Digitisation for Conservation, Restoration and Access

Thanks to a complex and articulated program of activities, meetings, workshops and research, scheduled over a two-year period, the Project FIRST aims at creating the conditions to produce sets of standards or "recommended practices" for the digitalisation of archival materials for the some specific uses - mainly for conservation, restoration, access/low resolution distribution. After having met the support of other important partners as IFTA (International Federation of Television Archives) represented in the Consortium through RTBF (Radio Television Belge de la Communauté Française de Belgique) and ORF (Osterreichischer Rundfunk, Austria), INA (Institut National de l'Audiovisuel, France), BELGACOM (the leading Belgian telecommunication company), EMF (European Multimedia Forum, UK), ACE submitted the project to the IST Programme in April 2002. The project was finally approved and started its work in July 2002, under the title of FIRST - Film Restoration and Conservation Strategies.

There are five main areas of interest for the FIRST project: 1) Archival film digitisation, 2) Restoration by digital processes for different uses, 3) Storage technologies and policies of digitized archives, 4) Cataloguing and retrieval of digitised film archives with focus on on-line management and retrieval, 5) Strategies for distribution and access of digitised archive material with focus on on-line management and delivery.

This report will concern the final Guidelines and Recommended Practices at the conclusion of this 2-year study.

*Presentation Coordinated By Nicola Mazzanti
FIRST Project Manager*

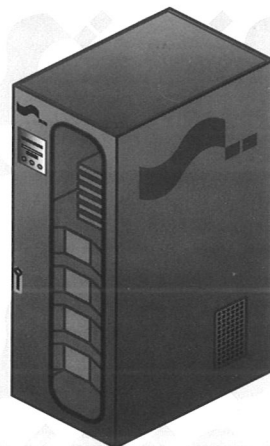


Evolve Your Migration Strategy



The First Automated System for the Migration and Preservation of Audiovisual Materials.

- **Dramatic Cost Reduction**
- **Consistent Quality Control and Documentation**
- **Valuable Master Tapes Never Leave the Archive**
- **Migrate to Multiple Tape or File Formats**
- **Entire Process Controlled by Expert System**
- **Project Completion in a Fraction of the Time**



Media Matters is an official partner of PrestoSpace: An integrated solution for Audiovisual preservation and access.



MEDIA MATTERS, LLC
<http://media-matters.net>
info@media-matters.net
 (212) 268-5528

SAMMA is a registered trademark of Media Matters LLC. All other products and services mentioned are trademarks of their respective companies. Copyright 2004 Media Matters LLC. All rights reserved

The United Nations Educational, Scientific and Cultural Organization (UNESCO) is mandated by its Member States inter alia to promote the free flow of ideas by word and image, to foster international co-operation in the fields of communication and information in order to narrow the gap between the "information rich" and the "information poor" in these areas and to promote access for all.

UNESCO has funded travel for 12 archivists from around the world to JTS this year.

Bounchao Phichit

The Lao National Film Archive & Video Centre

The Lao National Film Archive and Video Center is one of the poorest Archives in the world. Actively collecting and archiving the country's audio visual materials since 1991, the Archive currently has 21 staff members, 15,000 reels of film and 800 videotapes. Half of the collection are Laos heritage materials.

The primary mission of the Archive is acquisition, preservation, cataloging, access and development of its growing collection. In addition, it is quickly becoming the training center for the nation's audio visual archivists - particularly for television and radio. Organized by SEAPAVAA and FIAF, and with the support of ScreenSound Australia, the Archive hosts a training course on film and video preservation.

Sherrine Thompson

Bahamas National Archives

Established in 1971, The Bahamas Department of Archives functions to preserve and disseminate the historical, documentary, material and cultural heritage of The Bahamas. The Archives has an extensive photographic, microfilm, film and oral collection which are representative of the many technological changes which have taken place over the years.

Rosanna Boccagni

Centro de Estudios de Archivos Audiovisuales, CEAA

The Center for the Study of Audiovisual Archives, CEAA, is a non-profit association, based in Caracas, devoted to the creation of a learning/advisory resource for av archivists in Latin America. Plans feature the design of a course in the Spanish language for the Internet and compilation of a reliable bibliography in the vernacular.

UNESCO
Guests

JTS
2004

Marwa El Sahn
Bibliotheca Alexandrina

The Bibliotheca Alexandrina, a vast cultural complex rising on the shore of the Mediterranean is an Egyptian enterprise of international scope and ambitions.

The MM Library holds a collection of media materials including videocassettes, CDRoms, DVD's, audio and videotapes, transparencies, slides as well as other audiovisual resources. The collection covers a wide range of topics. In addition to the audiovisual materials, the MM Library houses a collection of printed materials on Cinema, theatre, Music and performing Arts.

Graciela Dacosta Meirelles
State University, University School of Librarianship

The University School of Librarianship (Escuela Universitaria de Bibliotecología) is part of the State University (Universidad de la República del Uruguay) and provides tertiary education in Library and Archival Science.

Francisco Miranda Fuentes
University of Chile

The Technology Center of the University of Chile, Santiago contains materials destined for use by faculty and (graduate) students of musicology and other music-related fields. The Center has a collection of 78 RPM records, vinyl records, 1/4" magnetic tape, 1 1/2" video tape, CDs DVDs and DAT containing audio and audiovisual materials pertaining to Chilean folkloric music and dance.

Kwame Sarpong
Gramophone Records Museum and Research Centre of Ghana

The Gramophone Records Museum and Research Centre of Ghana is a private museum and archives organization, located in Cape Coast (Ghana), responsible for the care of a recorded sound and images collection, a material culture collection related to music and sound reproduction. The preservation of the collection, the documentation and archiving of this intangible cultural heritage - especially Ghana's Highlife and Traditional Music of the last century - is intended for easy accessibility by students, researchers and the public. Public access is also provided via a web site (coming soon).

Marcela Cassinelli
Fundacion Cinemateca Argentina

Funcacion Cinemateca Argentina is a non-profit cultural foundation created in 1949. It is the only one of its kind in Argentina and, since 1957, a member of FIAF. The collection of FCA contains almost 20,000 features, shorts and documentaries, both Argentinian and international.

Margarita Vannini
The Institute of History of Nicaragua and Central America

The University of Central America Institute of History of Nicaragua and Central America (IHNCA) is one of the most important historical research centers in Nicaragua and one of the best in the Central America region.

Located on the campus of Central America University (UCA), IHNCA plays an important role in the development and promotion of the historical research; rescue, organization and conservation of a magnificent collection of bibliography and documentation; extended by the broadcast of information via new technology and communication.

The result is two new Institutes: the History of Nicaragua Institute (IHN) and the Historical Institute Library of Central America (BIHCA). The first, founded in 1987, was appointed by presidential decree to the University of Central America in 1990. The Historical Institute Library of Central America precedes 1934, begun by Jesuits in the old Central America College located in the city of Granada.

Elizabeth Watson
The University of the West Indies

The Learning Resource Centre of the Cave Hill Campus of The University of the West Indies has the largest research collection of Barbadian audiovisual materials on the island. The strengths of this collection are its unique lantern slides and postcards of 19th and 20th century Barbados as well as a number of sound carriers of vintage Barbadian and Caribbean music.

Maureen Webster-Prince
*The National Library of Jamaica:
Gateway to the Nation's Cultural Patrimony*

The National Library of Jamaica [NLJ] collects, documents and preserves local cultural happenings, published in both printed and audio-visual formats; serves as a gateway for access to the nation's information sources and co-ordinates network activities among local entities. Its A-V Department is the focal point for the Audio-Visual Information Network.

Ishumael Zinyengere
National Archives of Zimbabwe

The National Archives of Zimbabwe was established by an act of Parliament in 1935 and operates on the national Archives of Zimbabwe Act (1986). Its mission is to acquire, preserve and provide access to documentation, in whatever format, that comprises a legal and historical record of Zimbabwe past and present.

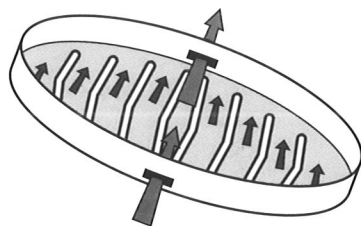
ProVent Breathes New Life into Archival Film Storage

Good Air In, Bad Air Out

To ensure the maximum lifespan for your film collection, proper ventilation is paramount. The better your film can breathe, the less likely it is to succumb to vinegar syndrome. After extensive research, Tuscan has developed a revolutionary new actively ventilated container that significantly improves airflow compared to standard ventilated containers, reducing free acid levels and literally breathing new life into your valuable film collection.

Go with the Flow

ProVent's innovative new design incorporates two key elements. Ventilation slots in the sidewall of the container serve as parallel entry and exit points to facilitate air exchange. Raised ribs on the floor of the container actively direct airflow under and around the film evenly, while also providing solid support to avoid edge distortion. Platform designs do not provide the same level of airflow as ProVent.



- Increased height allows air space above the film
- Chemically inert polypropylene restricts off-gassing
- Entire sidewall accepts standard labeling
- Full range of 16mm and 35mm sizes for protected storage of 400ft - 2000ft of film
- Convenient nesting rings ensure stable stacking
- Industry standard sizes maximize storage space and allow stacking with standard metal cans
- UL® Certified for non-halogenated* flame retardancy, complies with flame rating UL94V-2

Sound Storage Solutions for Audio Tape

Tuscan also offers new ProVent Audio archival containers, extending the life of your valuable audio tape or 8mm film. Made from the same chemically inert polypropylene as the rest of the ProVent line, ProVent Audio's vented design allows active airflow through the container to prolong the life of audio tape or 8mm film. Available in two sizes to store 900 - 1200 feet of 1/4" audio tape or 200 - 400 feet of 8mm film.

Tuscan also offers chemically inert polypropylene 3" cores for a complete archival storage system. Tuscan 16mm polystyrene reels, known for their superior design and sturdiness, are available by special order.



*Halogenated fire retardant not in excess of 2% by weight.

UL is a registered trademark of Underwriters Laboratories.

Prolong. Protect. ProVent.



Tuscan Corporation

7115 Virginia Road, Suite 111-6,
Crystal Lake, Illinois 60014 USA
Toll Free: 888-457-5811

Phone: (847) 458-7280 Fax: (847) 458-7281

www.tuscancorp.com Email: info@tuscancorp.com

Tuscan Industries

Sydney, Australia

Phone: 61 2 9 699 2422 Fax: 61 2 9 698 2307

The Carolyn Hauer International Fund was established in 2003 to promote internationalism within the Association of Moving Image Archivists (AMIA). This fund awards non-profit institutional AMIA memberships, AMIA Newsletter subscriptions and helps panelists from countries outside of the Americas to attend the Annual AMIA Conference. This year, a portion of the fund was used to bring a delegate to the Joint Technical Symposium. The recipient of this award is Mr. Paul Lihoma from the National Archives of Malawi.

The purpose of this fund is to provide assistance to programs that encourage the flow of archival ideas (in both directions) across national boundaries and continents. The award has been established thanks to the generosity of an AMIA member.

Paul Lihoma

The National Archives of Malawi

The National Archives of Malawi (then Nyasaland), was established by an act of Parliament in 1947. From 1953 to 1963, it was called the National Archives of Rhodesia and Nyasaland. After the dissolution of the federation of Rhodesia and Nyasaland in 1963, on 1st January 1964, the name changed to National Archives of Malawi. Presently, it operates on the National Archives of Malawi Act (1975). Its mission is to acquire, preserve and provide access to documentation, in whatever format, that comprises a legal and historical record of Malawi's past and present.

Carolyn Hauer
International Fund

JTS
2004

For more information on the Carolyn Hauer International Fund see: www.amianet.org

JTS 2004 Attendees

To May 28, 2004

Ruta Abolins

University of Georgia
325 Jackson St., Main Library
Athens, GA 30602-1641

Peter Adelstein

Image Permanence Institute
Rochester Institute of Technology
70 Lomb Memorial Dr., Sannett Bldg.
Rochester, NY 14618

Julia Ahamer

Phonogrammarchiv, Austrian Academy
of Sciences
Liebiggasse 5
Vienna A-1010
Austria

Jeff Anthony

Iron Mountain Film & Sound
Archive Services
1025 North Highland Ave.
Hollywood, CA 90038

Filippi Antoine

CNC / Archives Francaises du Film
7 bis, rue Alexandre Turpault
Bois d'Arcy 78390
France

Thomas Bakels

ALPHA-OMEGA digital GmbH
Lerchenauer Str. 230
Munich D- 80935
Germany

Richard Baldwin

SCETV
1101 George Rogers Blvd.
Columbia, SC 29201

John G. Bane

South Carolina Educational
Television Network
1101 George Rogers Blvd.
Columbia, SC 29201

Bent Bang-Hansen

Norwegian Film Institute
Dronningensgt 16
Oslo 0105
Norway

Rita Belda

Sony Pictures Entertainment
10202 West Washington Blvd.
Turner 100
Culver City, CA 90232

Howard Besser

New York University
Dept. of Cinema Studies
721 Broadway, RM. 648
New York, NY 10003

Tony Beswick

Sony Pictures Entertainment
10202 West Washington Blvd.
Turner 100
Culver City, CA 90232

Nigel Bewley

British Library Sound Archive
96 Euston Road
London NW1 2DB
United Kingdom

Jean-Louis Bigourdan

Image Permanence Institute
Rochester Institute of Technology
70 Lomb Memorial Dr.
Rochester, NY 14623

Annie Bissonnette

Library & Archives Canada
625 Boulevard du Carrefour
Gatineau, QC KIA ON3
Canada

JTS 2004 Attendees

To May 28, 2004

Rosanna Boccagni

Centro de Estudios de Archivos
Audiovisuales, CEEA
Edif. Conosca, Piso 2, Oficina 23
Avenida Avila, Bello Campo
Caracas
Venezuela

Mark Bodner

North West Film Archive
Minshull House, 47-49 Chorlton St.
Manchester M1 3EU
United Kingdom

Andrew Bonello

Cinesite
6018 Mulholland Hwy.
Los Angeles, CA 90068

Livia Borghetti

Ministero Beni Culturali-Discoteca
Di Stato E Museo-Dell'Audiovisivo
Via Michelangelo Caetani, 32
Rome
Italy

Peter Brothers

SPECS BROS., LLC
P.O. Box 5
Ridgefield Park, NJ 07660

Chris Bushman

Pacific Title & Art Studio
6350 Santa Monica Blvd.
Hollywood, CA 90038

Belina Capul

Philippine Information Agency
SEAPAVAA
Pia Bldg., Visayas Ave., Diliman
Quezon City, Metro Manila 1100
Philippines

Sheila Carey

Canadian Heritage Information
Network
15 Baay St. (15.4.A)
Gatineau K1A 0H5
Canada

Alain Carou

BNF
Quai F. Mauriac
Paris 75706
France

Jared Case

George Eastman House
900 East Ave.
Rochester, NY 14607

Mike Casey

Indiana University
1165 E. Third St.
Morrison Hall 117
Bloomington, IN 47405

Marcela Cassinelli

Fundacion Cinemateca Argentina
Salta 1915
Buenos Aires 1137
Argentina

Marcel Caya

International Council on Archives
50, 14th St.
Roxboro, Quebec H8Y 1M7
Canada

Paul Chapman

Fotokem
2801 West Alameda
Burbank, CA 91505

Thomas C. Christensen

Danish Film Institute
Gothersgade 55
Copenhagen 1123
Denmark

JTS 2004 Attendees

To May 28, 2004

Davorin Civkovic

Canadian Broadcasting Corporation
250 Front St. W.
Toronto, ON M5W 1E6
Canada

John Coghill

DALSA
605 McMurray Rd.
Waterloo, ON N2V 2E9

Catherine Cormon

Nederlands Filmmuseum
Amstelkade 162-1V
Amsterdam 1078 AX
The Netherlands

Richard Cournoyer

National Film Board of Canada
3155 Cote de Liesse Rd.
Saint-Laurent, QC H4N 2N4
Canada

Grover Crisp

Sony Pictures Entertainment
10202 West Washington Blvd.
Turner 100
Culver City, CA 90232

Sarah Cunningham

University of Texas at Austin
1401 W. 40th St.
Austin, TX 78756

Walter Cybulski

National Library of Medicine
8600 Rockville Pike
Bldg. 38, Rm. B1W10
Bethesda, MD 20894

Luciano D'Aleo

Discoteca-Di-Stato-E-Museo
-Dell'Audiovisivo
Via Michelangelo Caetani, 32
Rome
Italy

Graciela Dacosta Meirelles

State University, University School
of Librarianship
Emilio Frugoni 1427
Montevideo 11.200
Uruguay

Joan DaShiell

OCLC Preservation Service Center
9 South Commerce Way
Bethlehem, PA 18017

Lisa Davidson

Cinetech Inc.
27200 Tournay Rd.
Valencia, CA 91355

Kurt Deggeller

IASA
c/o Memoriam, Giacomettistr. 1
Bern 15 CH-3000
Switzerland

Alfonso Del Amo Garcia

Filmoteca Espanola
Calle Magdalena, 10
Madrid 28012
Spain

Dan Dimapoulas

Canadian Broadcasting Corporation
250 Front St. W.
Toronto, ON M5W 1E6
Canada

Christian Dimitriu

FIAP
Rue Defacqz 1
Brussels 1000
Belgium

Ray Edmondson

Archive Associates
100 Learmonth Dr.
Kambah, A.C.T 2902
Australia

JTS 2004 Attendees

To May 28, 2004

Marwa El Sahn

Bibliotheca Alexandrina
The Library of Alexandria
El Shatby, 21526
Alexandria
Egypt

Mark Epp

Archives of Ontario
77 Grenville Street
Toronto, ON M5S 1B3
Canada

Chris Erickson

Brigham Young University
2820 Harold B. Lee Library
Provo, Utah 84602

Dafydd Evans

National Screen and Sound
Archive of Wales
N.L.W. Penglais
Aberystwyth, Ceredigion SY23 3BU
Wales

Charles Fairall

British Film Institute
Kingshill Way
Berkhamsted, HERTS HP4 3TP
United Kingdom

Anita Falk

Cinemateket / Swedish Film Institute
Box 27126
Stockholm SE - 102 52
Sweden

Gayle Farrell

UCLA
1841 Sawtelle Blvd., #207
Los Angeles, CA 90025

Phil Feiner

Pacific Title & Art Studio
6350 Santa Monica Blvd.
Hollywood, CA 90038

Violaine Fenestre

INA
4 Avenue de l'Europe
Bry-sur-Marne 94366
France

Carl Fleischhauer

The Library of Congress
PO Box 205
Port Republic, MD 20676

Giovanna Fossati

Nederlands Filmmuseum
Postbus 148
Overveen 2050 AC
The Netherlands

Michael Friend

Sony Pictures Entertainment
10202 West Washington Blvd.
Turner 100
Culver City, CA 90232

Vincent Fromont

INA
4 Avenue de l'Europe
Bry-sur-Marne 94366
France

Hannah Frost

Stanford University Libraries
686 Escondido Rd., Rm. A25A
Stanford, CA 94305

John Galt

Panavision
6219 De Soto Ave.
Woodland Hills, CA 91367-2602

Robyn Gamble

National Archives of Australia
Locked Bag 4
Chester Hill, N.S.W 2162
Australia

JTS 2004 Attendees

To May 28, 2004

Lars Gaustad

National Library of Norway
Finsetveien 2
Mo i Rana 8607
Norway

Jeffrey Gersh

Chace Audio
201 South Victory Blvd.
Burbank, CA 91502

Ian Gilmour

ScreenSound Australia
McCoy Circuit
Acton, ACT 2601
Australia

Anne-Sophie Girard

Stil Design
3 Valliere
Quebec, QC G1K 6S9
Canada

Allan B. Goodrich

John F. Kennedy Library
Columbia Point
Boston, MA 02125

Erika B. Gorder

Rutgers University
169 College Ave.
New Brunswick, NJ 08901

Douglas Greenfield

Dolby Laboratories, Inc.
3601 W. Alameda
Burbank, CA 91505

Mike Handy

The Library of Congress
101 Independence Ave., SE
Washington, DC 20540

Lars Hansen

State and University Library
universitetsparken
Aarhus C 8000
Denmark

Tina Harvey

Library & Archives Canada
625 Boul. du Carrefour
Gatineau, QC KIA 0N3
Canada

Robert Heiber

Chace Audio
201 South Victory Blvd.
Burbank, CA 91502

Mark Henry

Eastman Kodak Company
343 State Street
Rochester, NY 14650

Caitlin Hickie

Australian Broadcasting Corporation
GPO Box 9994
Sydney, NSW 2001
Australia

Kelli Hicks

George Eastman House
900 East Ave.
Rochester, NY 14607

Luu Hoang Ba

Vietnam Film Institute
186 Nguyen Van Troi, Tan Binh Dist.
Ho Chi Minh,
Vietnam

Emmanuel Hoog

FIAT
14 avenue de l'Europe
Bry Sur Marne 94360
France

JTS 2004 Attendees

To May 28, 2004

Charles Hopkins

UCLA Film & TV Archive
1015 North Cahuenga Blvd.
Hollywood, CA 90038

Jim Houston

Pacific Title & Art Studio
6350 Santa Monica Blvd.
Hollywood, CA 90038

David Houston

Canadian Broadcasting Corporation
250 Front St. W.
Toronto, ON M5W 1E6
Canada

Chad Hunter

George Eastman House
900 East Ave.
Rochester, NY 14607

Ana Cristina Iriarte Ruiz

Filmoteca Espanola
Calle Magdalena, 10
Madrid 28012
Spain

Anthony Jackson

DreamWorks
1021 Grandview Ave.
Glendale, CA 91201

Martin Jacobson

Swedish National Archive of Recorded
Sound & Moving Images
Box 24124
Stockholm SE - 104 51
Sweden

Pierre Jacquet

INA
4 Avenue de l'Europe
Bry-sur-Marne, 94360
France

Crispin Jewitt

CCAAA
c/o British Library Sound Archive
96, Euston Rd.
London NW1 2DB
United Kingdom

Karin B. Johansen

Danish Film Institute
Gothersgade 55
Copenhagen 1123
Denmark

Paavo Jurvanen

Mikkeli Polytechnic
PL 181
Mikkeli 50101
Finland

Florian Kainz

Industrial Light & Magic
P.O. Box 2459
San Rafael, CA 94912

Andrea Kalas

British Film Institute
Kingshill Way
Berkhamsted, HERTS HP4 3TP
United Kingdom

Bill Karydes

Sony Pictures Entertainment
10202 West Washington Blvd.
Turner 100
Culver City, CA 90232

Andris Kesteris

Library & Archives Canada
395 Wellington Street
Ottawa, ON K1A 0N3
Canada

Wm. D. (Doug) Kirby

Canadian Broadcasting Corporation
5600 Sackville St.
Halifax, NS B3J 1L2
Canada

JTS 2004 Attendees

To May 28, 2004

John Kirk
MGM Studios
10250 Constellation Blvd.
Los Angeles, CA 90067

Jeannette Kopak
Media Archives Consulting Services
5420 Larch St.
Vancouver, BC V6M 4C8

Laura Krasnow
L. Jeffery Selznick School of Film
Preservation/George Eastman House
60 Carlton St., lower
Rochester, NY 14607

Reto Kromer
Swiss Film Archive
15, Av. Du Temple
Lausanne CH-1012
Switzerland

Dave Kulawick
Instructional Media-Carleton
University
1125 Colonel By Dr.
Ottawa, ON K1S 5B6
Canada

Mikko Kuutti
Finnish Film Archive
PO Box 177
Helsinki 00151
Finland

Anthony L'Abbate
George Eastman House
900 East Ave.
Rochester, NY 14607

Chris Lacinak
VidiPax
450 West 31st St., Fourth Floor
New York, NY 10001

Catherine Lacken
SWR, Germany
Neckarstr. 230
Stuttgart 70190
Germany

Mitchell Lairmore
Eastman Kodak Company
343 State Street
Rochester, NY 14650

Frederic Lapointe
Stil Design
3 Valliere
Quebec, QC G1K 6S9
Canada

Alan Lewis
AV Archives Consultants
1829 Parkside Dr., NW
Washington, DC 20012

Paul Lihoma
National Archives of Malawi
Mkulichi Road
PO Box 62
Zomba
Malawi

Peter Limburg
Haghefilm Conservation
Willem Fenengastraat 39
Amsterdam 1096 BM
The Netherlands

Josef Lindner
Academy Film Archive
1313 North Vine St.
Los Angeles, CA 90028

Khai Lu
UCLA Film & TV Archive
302 East Melnitz
Los Angeles, CA 90095

JTS 2004 Attendees

To May 28, 2004

Gregory Lukow
The Library of Congress
101 Independence Ave., SE
Washington, DC 20540-4690

Simon Lund
Cineric, Inc.
630 9th Ave.
New York, NY 10036

Jim Macdonnell
Library & Archives Canada
625 Boulevard du Carrefour
Gatineau, QC KIA 0N3
Canada

Andrew Maltz
Science & Technology Council, AMPAS
1313 N. Vine St.
Los Angeles, CA 90028

Michael Martin
Canadian Broadcasting Corporation
P.O. Box 500
Station A
Toronto, ON M5W 1E6
Canada

Alan J. Masson
Eastman Kodak Company
6700 Santa Monica Blvd.
Los Angeles, CA 90038-1203

Nicola Mazzanti
FIRST Project
Via Bellinzona 2
Bologna 40135
Italy

Iona McCraith
Archives Association of Ontario
22 Slalom Dr.
Bethany, ON L0A 1A0
Canada

Russ McMillon
Canadian Broadcasting Corporation
250 Front St. W.
Toronto, ON M5W 1E6
Canada

Annella Mendoza
Vision TV
80 Bond St.
Toronto, ON M5B 1X2
Canada

Francisco Miranda Fuentes
University of Chile
Centec Fac Artes
Universidad de Chile
Campania 1264
Santiago
Chile

Simona Monizza
Nederlands Filmmuseum
Postbus 148
Overveen 2050 AC
The Netherlands

Charles Morin
CFILM Consulting
5645 Waverly St.
Montreal, QB H2T 2Y2
Canada

William T. Murphy
AVArchives Services
10105 Minburn St.
Great Falls, VA 22066

Nancy Myself
UCLA Film & TV Archive
1015 North Cahuenga Blvd.
Hollywood, CA 90038

Paul Narvaez
Pro-Tek Media Preservation
1838 1/2 Lucile Ave.
Los Angeles, CA 90026

JTS 2004 Attendees

To May 28, 2004

Mick Newnham

ScreenSound Australia
PO Box 2002
Acton, ACT 2601
Australia

Thi Hong Hanh Nguyen

Vietnam Film Institute
No 7 Phon Ke Bing St.
Ho Chi Minh 84-8
Vietnam

Susi Niewahner

PPS Group
602 Main St., Suite #900
Cincinnati, OH 45202

Balazs Nyari

Cineric, Inc.
630 9th Ave.
New York, NY 10036

William O'Farrell

90 Ross Ave.
Ottawa, ON K1Y 0N5
Canada

Bob O'Neil

Universal Studios
100 Universal City Plaza
Universal City, CA 91608

Bronwyn Officer

National Library of New Zealand
P.O. Box 1467
Wellington 6001
New Zealand

Everett Oickle

Library & Archives Canada
625 Boulevard du Carrefour
Gatineau, QC K1A 0N3
Canada

Joseph Olivier

Cinetech Inc.
27200 Tournay Rd., #100
Valencia, CA 91355

Heather Olson

Academy Film Archive
1313 North Vine St.
Los Angeles, CA 90028

Brigitte Paulowitz

Austrian Filmmuseum
Heiligenstaedterstr. 175
Vienna 1190
Austria

Bounchao Phichit

The Lao National Film Archive
& Video Centre
Khuveng Road
PO Box 1624
Vientiane, PDR
Laos

David Pierce

British Film Institute
National Film and Television Archive
J Paul Getty Conservation Centre
Kingshill Way
Berkhamsted, HERTS HP4 3TP
United Kingdom

Joshua Pines

Technicolor
2233 North Ontario St., 3rd Fl.
Burbank, CA 91504

Michael Pogorzelski

Academy Film Archive
1313 North Vine St.
Los Angeles, CA 90028

Charles Poynton

139 Robert St.
Toronto, ON M5S 2K6
Canada

John Previti

Cineric, Inc.
630 9th Ave.
New York, NY 10036

JTS 2004 Attendees

To May 28, 2004

Richard Ranft

British Library Sound Archive
96 Euston Road
London NW1 2DB
United Kingdom

Paul Read

Paul Read Associates
Home Farm, Thrandeston
Diss, Norfolk IP21 4BL
United Kingdom

John Reed

National Screen and Sound
Archive of Wales
N.L.W. Penglais
Aberystwyth, Ceredigion SY23 3BU
Wales

Gordon Reid

Cedar Audio Ltd.
20 Home End Fulbourn
Cambridge CB1 5BS
United Kingdom

Menno Revers

Haghefilm Conservation
Willem Fenengastrat 39
Amsterdam 1096 BM
The Netherlands

Eddie Richmond

UCLA Film & TV Archive
1015 North Cahuenga Blvd.
Hollywood, CA 90038

Mark Ritchie

Heritage Resource Mgmt. Ass.
228 Broken Oak Crescent
Kitchener, ON N2N 1N7
Canada

James Roberts

National Film Board of Canada
3155 Cote de Liesse Rd.
Saint-Laurent, QC H4N 2N4
Canada

Harvey Rogers

Alliance Atlantis Communications
121 Bloor St., East
Toronto, ON M4W 3M5
Canada

Roberto Rossetto

RAI
Via Cernaia 33
Turin 10121
Italy

Bruce Royan

Concurrent Computing Ltd.
41 Greenhill Gardens
Edinburgh EH10 4BL
Scotland

Nan Rubin

Thirteen/WNET - TV
450 West 33rd St.
New York City, NY 10001

Fredrik Rundqvist

Swedish Film Institute
Hollywoodvagen 46
Sollentuna, Stockholm 192 77
Sweden

Alan Russell

Scottish Screen Archive
1 Bowmont Gardens, Dowanhill
Glasgow G12 9LR
Scotland

A. Sai Prasad

Prasad Productions
#28, Arunachalam Rd., Saligramam
Chennai, Tamil Nadu 600093
India

Dominique Saintville

INA
4 Avenue de l'Europe
Bry-sur-Marne 94366
France

JTS 2004 Attendees

To May 28, 2004

Kwame Sarpong

Gramophone Records Museum and
Research Centre of Ghana
Regional Center for National Culture
PO Box UC 35
University of Cape Coast
Cape Coast, Ghana
West Africa

Rosa Sauter

Eastman Kodak
56 Laurel Crest Dr.
Spencerport, NY 14559

Robyn Schnellenberger

The Library of Congress
223 South Wright Ave.
Dayton, OH 45403

Dietrich Schueller

Phonogrammarchiv, Austrian Academy
of Sciences
Liebiggasse 5
Vienna A-1010
Austria

Gavin Schutz

Ascent Media
520 Broadway, 5th Fl.
Santa Monica, CA 90401

Thomas A. Scott

Visual Data Corp.
200 Vallejo St.
San Francisco, CA 94111

Bob Semmer

Fotokem
2801 West Alameda
Burbank, CA 91505

Milton Shefter

Miljoy Enterprises, Inc.
512 North Walden Dr.
Beverly Hills, CA 90210

Ted Sheldon

University of Missouri
5706 West 124th St.
Overland Park, KS 66209

Jennifer Sidley

Selznick School of Film Preservation
7 North Goodman St., #605
Rochester, NY 14607

Harald Siefken

DALSA
605 McMurray Rd.
Waterloo, ON N2V 2E9

Kevin Sikes

The Library of Congress
2006 Beth Ann Way
Miamisburg, OH 45342

Leon Silverman

LaserPacific Media Corp.
809 N. Cahuenga Blvd.
Hollywood, CA 90038

Brock Silversides

University of Toronto Libraries
130 St. George St.
Toronto, ON M5S 1A5
Canada

Bob Sky

Novastar Digital Sound Services
6430 Sunset Blvd., #103
Los Angeles, CA 90028

Attah P. Sola

Attah Arts & Cultural Gallery 67
No 5 Okunade Adeagbo
Ibadan, OYO 9130U -I
Nigeria

Scott Sonderegger

Novastar Digital Sound Services
6430 Sunset Blvd., #103
Los Angeles, CA 90028

JTS 2004 Attendees

To May 28, 2004

John Spencer

Bridge Media Solutions, Inc.
1801 8th Ave. S., Suite 200
Nashville, TN 37203

Joie Springer

UNESCO
1 rue Miollis
Paris 75732
France

Paul Stambaugh

Technicolor Creative Services
4050 Lankershim Blvd.
North Hollywood, CA 91604

Deborah Stoiber

George Eastman House
900 East Ave.
Rochester, NY 14607

Jeff Stoiber

George Eastman House
900 East Ave.
Rochester, NY 14607

Robert Stone

UCLA Film & TV Archive
1015 North Cahuenga Blvd.
Hollywood, CA 90038

Sylvain Stotzer

University of Applied Sciences
of Fribourg
Perolles 80
Fribourg 1700
Switzerland

Edward Stratmann

George Eastman House
900 East Ave.
Rochester, NY 14607

Barbara Taylor

Archives of Ontario
77 Grenville Street
Toronto, ON M5S 1B3
Canada

Trond Teigen

National Library of Norway
Finsetveien 2
Mo i Rana 8600
Norway

Daniel Teruggi

Institut National de l'Audiovisuel
4, av. de l'Europe
Bry-sur-Marne 94350
France

Benoît Thiebaut

CRCDG
36, rue Geoffroy Saint-Hilaire
Paris 75005
France

Sherrine Thompson

Bahamas National Archives
PO Box SS-6341
Bahamas

Tom Tisch

Cinetech Inc.
27200 Tournay Rd., #100
Valencia, CA 91355

Boris Todorovitch

Centre National de la
Cinematographie
Archiveo Francaise on Film
7bis rue A. Turpault
Bois-D'Arcy 78395
France

Mark Toscano

Academy Film Archive
1313 North Vine St.
Los Angeles, CA 90028

JTS 2004 Attendees

To May 28, 2004

Benjamin Tucker

George Eastman House
900 East Ave.
Rochester, NY 14607

Larry Tucker

Kenyon College
103 College Dr.
Gambier, OH 43022

Richard Utley

PRO-TEK/Kodak
3110 North San Fernando Blvd.
Burbank, CA 91504

Margarita Vannini

Instituto de Historia de Nicaragua y
Centroamerica Universidad
Centroamericano
Campus Universidad Centroamericana
Managua,
Nicaragua

Jean Varra

INA
4 Avenue de l'Europe
Bry-sur-Marne 94360
France

John Vieth

Dalsa Corp
605 McMurray Rd
Waterloo, ON N2V 2E9
Canada

René Villeneuve

Villeneuve Media Technologies Inc.
2482 de L'oiselet
Laval, QB N7L 4X1
Canada

Léon-Bavi Vilmont

CRCDG
36, rue Geoffroy Saint-Hilaire
Paris 75005
France

Daniel Wagner

George Eastman House
900 East Ave.
Rochester, NY 14607

Timothy Wagner

George Eastman House
900 East Ave.
Rochester, NY 14607

Heather M. Wagner

Hoover Institution Archives
Stanford University
Stanford, CA 94305-6010

Robert Walker

Iron Mountain Film & Sound
Archive Services
1025 North Highland Ave.
Hollywood, CA 90038

David Walsh

Imperial War Museum
Lambeth Rd.
London SE1 6HZ
United Kingdom

Keith Watanabe

FPC. Inc. - A Kodak Company
6777 Santa Monica Blvd.
Los Angeles, CA 90038

Gareth Watkins

Radio New Zealand
155 The Terrace
Wellington,
New Zealand

Elizabeth Watson

The University of the West Indies
PO Box 64
Bridgetown, Barbados
West Indies

JTS 2004 Attendees

To May 28, 2004

Maureen Webster-Prince

The National Library of Jamaica:
Gateway to the Nation's Cultural
Patrimony
12 East Street
Kingston
Jamaica

George Wharton

City of Toronto Archives
255 Spadina Rd.
Toronto, ON M5R 2V3
Canada

Chip Wilkinson

Cineric, Inc.
630 9th Ave.
New York, NY 10036

Mimi Wortham-Brown

South Carolina Educational
Television Network
1101 George Rogers Blvd.
Columbia, SC 29201

Marlena Wyman

Provincial Archives of Alberta
8555 Roper Rd.
Edmonton, AB T6E 5W1
Canada

Caroline Yeager

George Eastman House
900 East Ave.
Rochester, NY 14607

Tom Zaczyk

Sony Pictures Entertainment
10202 West Washington Blvd.
Turner 100
Culver City, CA 90232

Ishumael Zinyengere

National Archives of Zimbabwe
Private Bag 7729
Causeway
Harare
Zimbabwe

Notes

Calendar of Events

2004

- August 8-13** IAML - IASA Joint Annual Conference, Oslo, Norway
August 22-27 70th IFLA General Conference and Council, Buenos Aires, Argentina
August 23-29 The XVth International Congress on Archives, Vienna, Austria
October FIAT Conference & General Assembly, Marseille, France
October 1-3 26th International AES Conference – High Quality Analog Audio Processing, Baarn, The Netherlands
October FIAT Conference & General Assembly, Marseille, France
October 20-23 SMPTE Technical Conference and Exhibition, Los Angeles, USA
October 28-31 117th AES Convention, San Francisco, USA
November 9-13 AMIA Annual Conference, Minneapolis, USA
November 10-13 Museum Computer Network Annual Conference, MN, USA

2005

- Mar 30 - Apr 2** ARSC Annual Conference, Austin, USA
May 2005 SEAPAVAA's 9th Annual Conference, Brunei, Darussalam
August 14-18 71st IFLA General Conference and Council, Oslo, Norway
September IASA Annual Conference, Barcelona, Spain
Nov 30- Dec 3 AMIA Annual Conference, Austin, USA

2006

- August 14-18** 72nd IFLA Conference and Council, Seoul, Republic of Korea
October AMIA Annual Conference, Anchorage, Alaska, USA

2007

- August** 73rd IFLA General Conference and Council, Durban, South Africa

2008

- August** 74th IFLA General Conference and Council, Québec, Canada