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Zurich Open Repository and Archive

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## Bibliography on the Digitization of Archival Film

Flückiger, B; Heller, F

Flückiger, B; Heller, F (2010). Bibliography on the Digitization of Archival Film. script.com:Epub ahead of print.  
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**AFRESA**

The Automatic System for Scanning, Reconstruction and Registration of Archival Film

## Links Digitization of Archival Film

Compiled by [Prof. Dr. Barbara Flueckiger](#) and [Dr. Franziska Heller](#), [Institute of Cinema Studies](#), University of Zurich, within the framework of the research project [AFRESA](#), funded by a grant from the [Swiss Confederation's Innovation Promotion Agency CTI](#) in collaboration with the [Imaging and Media Lab of the University of Basel](#), the companies [Swiss Effects Film GmbH](#) and [Sondor](#).

Categories: [Guides](#) / [Case Studies](#) / [Organizations](#) / [Reports](#) / [State of the Art](#)

Please report errors or suggestions to [Barbara Flueckiger](#)

### Guides

#### [ACE. Links to Relevant Topics](#)

Further links to relevant topics: conservation, preservation, digitization

#### [Adelstein, Peter \(2004\). IPI Media Storage Quick Reference. Rochester: Image Permanence Institute.](#)

Quick reference chart

#### [Code of Ethics FIAF](#)

Ethical guidelines for the handling of audiovisual heritage

#### [Copyright Data](#)

Copyright probes/case studies, Charlie Chaplin, The Abbott & Costello TV series, further links to foreign copyright laws (outside the US)

#### [Cultural Heritage Digital. Good Practice](#)

Recommendations for best practice, digitization of the cultural heritage (in general), downloads, partly in German

#### [Digitization Guidelines](#)

Technical information for the digitization of historical material (still images and audiovisual material)

#### [Joanneum Diamant](#)

Description of film defects

#### [Film Forever](#)

Film stocks, film identification, damage, handling, storage, glossary

#### [Image Permanence Institute](#)

Further literature about photochemical preservation, bibliography: stability and storage issues with PDF-documents

#### [Imaging & Media Lab. Scripts. University of Basel.](#)

Scripts: Imaging, image/imaging technology, black/white photography, color photography, FAQs about color, sampling, in German

[King, James C.: Adobe. Why Color Management?](#)

Color-management, introduction, Adobe, consistency, conversion, Photoshop basic workflow, gamut differences, rendering, ICC, CRTs, white/black point, printer, quantization, compression, interpolation, errors and problems

[Meinel, Christoph \(2007\): Damage and Handling of Audiovisual Material.](#)

Damage, handling of audiovisual material, survey and guide, long term storage, biological degradation processes, further literature, links and organizations, film, magnetic tapes, vinyl discs, optical discs, migration, in German

[National Film and Sound Archive - Preservation](#)

NFSA preservation site, guide: care for audiovisual materials (audio, film, video, photographs), services, technical research: papers, film preservation handbook

[Puglia, Steve: PADI-Costs](#)

Costs of long-term access to digital information, data storage, emulation, preservation, migration, obsolescence, further literature, articles and links

[Ray Edmondson / Unesco \(2004\): Audiovisual Archiving: Philosophy and Principles](#)

Ethical, philosophical and memopolitical implications/challenges of digitization: obsolescence, artefact value, marketing, access, ethical challenges, internet, copyright, historical contextualization, technological memory, terms and definitions, tension: physical carrier, conceptual descriptors, content, key-concepts of audiovisual heritage, historical emergence, characteristics of the institutions, specifics of audiovisual archives (see table in appendix), context-dependence, management principles, appendix: glossary, formats and obsolescence

[The Film Preservation Guide \(2004\). San Francisco : The National Film Preservation Foundation](#)

Film preservation (handling, identification, pragmatics and ethics)

[The Image Permanence Institute Preservation Calculator](#)

Preservation calculator

[Venice Charter](#)

Role of the original, restoration ethics, in German

[Video Preservation Website](#)

Video preservation, further links to guidelines: migration, create use copy, videotape storage, history of imaging technology, conversion: analog videotapes to digital, museum with links to all the major video equipment image repositories, library, video guide by Charles Bensinger (1981)

[Digital History: A Guide to Gathering, Preserving, and Presenting the Past on the Web](#)

Possibilities and limitations of the digitization, cultural heritage in general (esp. print, manuscripts), loss of information, costs, access

[Kodak: Film/Video Glossary](#)

Glossary and survey

[Magnetic Tapes. Know-How](#)

Basic principles of magnetic tape, video tapes and data technology in the internet, further links to an alphabetical survey of materials and equipment, esp. AGFA, BASF, museum of magnetic tapes

[Memoriav. Inventory by Mariann Sträuli](#)

Inventory of Swiss archives by Mariann Sträuli

[Poynton, Charles: FAQs about Color.](#)

Color specification and image coding, computer graphics, image processing, video and the transfer of digital images to print, physical spectral power, CIE system, other color systems, linear and nonlinear, standards, SMPTE, EBU and ITU-R (formerly CCIR), CMY, CMYK, further links to the problem of color space conversions, FAQs about gamma, color physics, radiometry and photometry

[Schmidts, Rudi \(2010\): Grundlagen Color-Grading](#)

Color and color-grading in the digital domain, in German

[Beagrie, Neil / Greenstein, Daniel: A Strategic Policy Framework for Creating and Preserving Digital Collections.](#)

Policy framework from 1998 for digital collections, case studies, many further links to institutions and initiatives

[Library of Congress Preservation Documentation 1993](#)

Film preservation, state of the art 1993, historical report/snapshot 1993, memopolitics in the US, technical background, film bases, emulsions, color fading, storage, US institutions, federal funding, benefits of film preservation, public access, copyright

### Case Studies / Projects

[ACE Digital Film Restoration](#)

Further links: restoration case studies, digital restoration of "Opernball", the Ozu-restoration project, "Tokyo Story", software "Limelight"

[ACE Preservation](#)

Further articles, links, case studies: history and definition of preservation, film restoration, institutions and organizations, restoration of "Metropolis", sound restoration of "The Man Who Kew Too Much", restoration of "Die Jagd nach dem Tod", restoration of the soundtrack "The Mistress of Atlantis"

[Beelden voor de toekomst / Images for the Future](#)

National Dutch project for mass-digitization of audiovisual heritage

[Chapman, Stephen: Counting the Costs of Digital Preservation: Is Repository Storage Affordable?](#)

Costs and affordability of digital collections, case studies

[Film Restoration Case Study: Martin Koerber](#)

Philological research for film reconstruction, in German

[Palm, Jonas: The Digital Black Hole](#)

Costs of long-term preservation of digital files, general costs of (mass-)digitization, costs of access, management/administration costs for the data and storage, scanning processes and their costs, fluid definition of "true quality"

[Presto Space A/V Archive Digitization & Storage Guide](#)

A/V archive, information, management tools on digital technology for the storage of film, video and audio content and associated metadata, tutorials, articles, glossary

[Presto Space Project](#)

General information about mass digitization/digital preservation: technical solutions for a complete digital preservation, all kinds of audio-visual collections, adaptable to different European memopolitical interests. asset-management, industrial, semi-automated systems, access, audiovisual material as historical, cultural and commercial assets

[Restoration "Lola Montez", Munich Filmmuseum](#)

Restoration case study: "Lola Montès", Munich Filmmuseum, in German

[Restoration "Lola Montès", Cinémathèque Française](#)

Different versions, several photochemical elements, digitization, alignment of the different copies (dating from different generations), Cinema Scope, formats, sound restoration, colors, further links, in French

[Sci-Fi Japan. "Mothra" restored](#)

Restoration case study: "Mothra"

[Restoration: "Prettier than ever - The Wizard of Oz"](#)

Restoration case study, documentary, Technicolor

[Sci-Fi Japan. "Rashomon" restored](#)

Restoration case study: "Rashomon"

[Shaman Project](#)

Development of a digital long-term preservation framework for libraries and archives, sustaining heritage access through multivalent archiving

[Streaming Case-Study: "Rose of Rhodesia"](#)

Streaming case study of historic material: "Rose of Rhodesia"

[Taglia Italia Archive](#)

Philological research, online-archive of Italian censorship cards, in Italian

[Cineric. Restoration and Preservation](#)

Restoration case study: "Dr. Strangelove", 4 K workflow

[Classic Film Festival Preservation](#)

Film preservation associated with the Cinecon Festival

[Early Alfred Hitchcock Movies in Need of Restoration](#)

Article about the Hitchcock restoration and online donation project

[Film Restoration](#)

Restoration case study "Bucking Broadway", in French

[Hometheaterforum "Dr. Strangelove"](#)

Restoration case study "Dr. Strangelove", distribution via Blu-Ray, discussion of the job quality

[Rescue Hitchcock](#)

Online donation project for the restoration of early Hitchcock films

[Sony Pictures Museum "Dr. Strangelove"](#)

Restoration case study: "Dr. Strangelove"

## Organizations

[ACE. Association des Cinémathèques Europ&e acute;ennes](#)

Association of the European Cinémathèques, events, statues, goals, activities, education, job-service

[AMIA. The Association of Moving Image Archivists](#)

Association of Moving Image Archivists, non-profit organization, collaborations, education, annual conference, newsletter, debates, standards, AMIA codes of ethics

[Haghefilm Foundation](#)

A learning laboratory for film preservation and curatorship

[National Film & Sound Archive Australia](#)

National film and sound archive Australia

[Cinecon Festival](#)

Classic Film Festival

[German Association of Restorers](#)

Activities and information about German restorers (more general, not esp. focused on audiovisual material), in German

## Reports / State of the Art

[Cave, Dylan \(2008\): Born Digital -- Raised an Orphan? Acquiring Digital Media through an Analog Paradigm In: Muse, Volume 8, Number 1, Spring 2008.](#)

Digital long-term preservation, digital born media, technical and cultural strategies

[Cinémathèque Suisse. Restoration](#)

Restoration in the Cinémathèque Suisse, criteria for selection, (lab) partners in the restoration, in German and French

[Gracy, Karen F. \(2003\): Documenting the Process of Film Preservation. In: The Moving Image.](#)

[Volume 3, Number 1, Spring 2003, pp. 1-41.](#)

Analysis of values and selection criteria using ethnographic methods and fieldwork, social reality of film archivists

[Image Permanence Institute](#)

Physical-chemical preservation, state of the art research, training

[New York Times: Kodak will retire Kodachrome. 23/06/2009.](#)

Photochemical material in the digital age, Kodak politics, state of the art 2009

[Owen, J.S. Mackenzie \(2006\): Authenticity and Objectivity in Scientific Communication: Implications of Digital Media. In: Sonja Neef, José van Dijck and Eric Ketelaar \(eds\): Sign Here! Handwriting in the Age of New Media. Amsterdam: Amsterdam University Press. 60-75.](#)

Digitization and its consequences for modes of communication - notions and construction of the original

[Resource 411- Preservation](#)

Video preservation, film preservation, digitization, digital preservation, videotapes, digital archiving, television preservation, color-transfer analog-digital

[Stephen G. Nichols/ Smith, Abby \(2001\): The Evidence in Hand: Report of the Task Force on the Artifact in Library Collections. 35-38.](#)

Role of artifacts/originals in libraries 1800-2000, collections, print/paper, audiovisual material, sound, still and moving images, broadcast media, criteria for selection, distinction of value, copyright vs. preservation? case-studies

[Turci, Arianna \(2006\): The Use of Digital Restoration within European Film Archives: A Case Study. In: The Moving Image. Volume 6, No 1, Spring 2006. p. 111-124.](#)

Historical development, beginnings and acceptance of digital restoration in European archives, state of the art in 2005

[King, Susan: Classic Hollywood: Rare Films on Display at Cinecon 46](#)

Cinecon Classic Film Festival 2010, Society for Cinephiles

[Owen, J.S. Mackenzie \(2005\): The Scientific Article in the Age of Digitization. Amsterdam.](#)

Digitization and communication, aspects of the original

[Sturm, Julia \(2001\): Special Effects. Hightech in the Shire](#)

Color and color-grading in the digital domain, in German

[Thompson, Kristin \(2008\): Digital Grading and the Color of Middle-Earth.](#)

Color and color-grading in the digital domain

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