



# **RESTORATION OF FILM HERITAGE SYMPOSIUM**

**Ljubljana / Slovenian Cinematheque**

**Tuesday, 11 April, and Wednesday, 12 April 2017**

# **MEDNARODNI SIMPOZIJ O RESTAVRIRANJU FILMSKE DEDIŠČINE**

**Ljubljana / Slovenska kinoteka**

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# Annike Kross

Filmrestorer at EYE Filmmuseum in Amsterdam

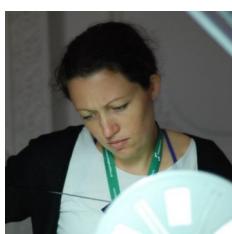
## The ongoing evolution of restoring early colour films / Case study: re-restoration of the Desmet collection

For about 20 years now, EYE has been continuously revisiting its restoration methods of preserving tinting, toning and stencil colours of films from the silent film period.

But EYE is not only changing the preservation methods for new restorations. In 2000, the originals and the preservation prints of the Desmet collection were revisited. Unsatisfying colour reproductions or preservations in b/w were put onto a list which was tackled during the Images for the Future project from 2008 to 2012. During this "re-restoration project", tinted and toned films were restored with the Desmet method, while stencil (and handcoloured) films were restored with the digital intermediate route, grading the individual stencil colours digitally.

Furthermore, since 2012 the preservation prints of the Desmet collection were systematically digitized (specifically for the Desmet exhibition). During the process of translating film into digital files, colour reproduction again became an issue which had to be monitored and corrected in post-production. Various digitizations are being revisited and re-done in accordance with the new quality standards.

A revision like this project makes accurate cataloguing very important for one to be able to distinguish the different preservation prints. It has also been shown that an accurate first cataloguing of the original is even more important as we saw and we still come across films which are listed as b/w in the database, but upon viewing them it turned out that they are indeed coloured.



Annike studied Restoration of the Moving Image and Photography at the University of Applied Sciences in Berlin, where she finished her studies in 2006, graduating cum laude. The title of her final thesis was: The Simulation of Tinting and Toning Using the So-called Desmet Method. She has been working at the EYE Film Institute in the Netherlands as a film restorer since 2007. Being specialised on the preservation of nitrate films and digital restoration, she is responsible, amongst many other titles, for the restoration of J'ACCUSE (Abel Gance, FR, 1919), SHOES (Lois Weber, USA, 1916), and THE SPANISH DANCER (Herbert Brenon, USA, 1923). Since 2012, she has also been executing and overseeing the in-house digitization workflow of EYE.

Annike je leta 2006 z odliko zaključila študij restavriranja filma in fotografije na Univerzi za uporabne znanosti v Berlinu. Tema njenega diplomskega dela je bila Simulacija tintiranja in toniranja z uporabo t.i. metode Desmet. Od leta 2007 kot restavratorka filma dela na filmskem inštitutu EYE na Nizozemskem. Specializirana je za restavriranje nitratnih filmov in za digitalno restavriranje. Med drugim je zadolžena za restavracijo filmov, kot so J'ACCUSE (Abel Gance, Francija, 1919), SHOES (Lois Weber, ZDA, 1916) in THE SPANISH DANCER (Herbert Brenon, ZDA, 1923). Od leta 2012 je na inštitutu EYE zadolžena tudi za izvedbo in nadzor nad potekom digitalizacije.

## Restavriranje zgodnjih barvnih filmov v nenehnem razvoju / Primer: re-restavracija zbirke Desmet

Filmski muzej EYE že 20 let dopolnjuje in razvija metode za restavriranje tintiranih, toniranih in ročno barvanih filmov iz obdobja neme kinematografije.

Pri tem se ne posveča le razvoju metodologije hranjenja restavriranih gradiv. V letu 2000 so pod drobnogled vzeli originalne kopije filmov iz zbirke Desmet ter njihove kopije, izdelane za namene hranjenja. V okviru projekta *Images for the Future* (2008–2012) so obravnavali predvsem nezadovoljive barve na restavriranih filmih in njihove črno-bele kopije za hranjenje. V projektu re-restavriranja so bili tintirani in tonirani filmi restavrirani z Desmet metodo, šablonsko in ročno barvane filme pa so restavrirali s tehniko digitalnega intermediata, ki je omogočala, da so bile posamezne barve obravnavane digitalno.

Od leta 2012 dalje poteka sistematična digitalizacija filmov iz iste zbirke, ki so jih prikazali na razstavi o Desmetovi zbirki. Tudi med tem projektom so naleteli na težave z restavriranjem barv, ki so jih naknadno popravljali v post-produkciji, filmi pa so bili ponovno digitalizirani v skladu z novimi standardi kakovosti.

Tovrstni projekti odražajo pomembnost sistemov za katalogiziranje, saj lahko med različnimi kopijami istega filmskega naslova ločimo zgolj zahvaljujoč dosledni dokumentaciji. Prav tako primer zbirke Desmet dokazuje, kako pomembna je pravilnost prvega evidentiranja – nekateri filmi, ki so bili prvotno evidentirani kot črno-beli, so se izkazali zaobarvane, kar pa je odkril šele ponoven restavratorski poseg.

# **Benjamin Lerena**

Project Manager, INA (National Audiovisual Institute of France)

## **Benefits of being a lazy sound restorer**

Pop, buzz, clip, click, crackle, noise, hiss, hum, wow etc.

Today many tools and powerful plugins allow skilled and patient sound engineers to fix almost any audio defect. However, carefully transferring optical or magnetic sounds should be considered as the first step of any audio restoration process. For starters, it is more ethical, secondly, the quality is better if you optimize the transfer, not to mention you avoid digital artefacts. But mainly, it is a good way to save time if you are a lazy sound restorer. Benjamin will offer a few tips to go back home earlier!



Benjamin Lerena is a project manager in the Education, Training and Consulting Direction of INA (National Audio-visual Institute of France). Within the Consulting department, he assists companies and institutions, in France and abroad, on the preservation, digitization and management of their analogue and digital audio-visual heritage. He graduated in sound and acoustics in 2000 and participated at the FIAF Film Restoration Summer School in 2012. He worked as a sound restorer at the INA Technical department for 13 years before joining the Consulting department. He is specialized in the audio-visual archive restoration. He also leads training courses for students and professionals at INA or in foreign countries on various topics such as restoration of sound, preservation of film and audio-visual careers, digitization plans etc.

*Benjamin Lerena je vodja projektov na oddelku za izobraževanje, usposabljanje in svetovanje pri Nacionalnem avdiovizualnem inštitutu v Franciji (INA). Na oddelku za svetovanje pomaga podjetjem, tako v Franciji kot drugje po svetu, pri ohranjanju, digitalizaciji in upravljanju z njihovo analogno in digitalno avdiovizualno dediščino. Leta 2000 je diplomiral iz zvoka in akustike. Leta 2012 je sodeloval na FIAF-ovi poletni šoli restavriranja filma. Preden se je pridružil oddelku za svetovanje, je trinajst let na tehničnem oddelku INA delal kot restavrator zvoka. Specializiran je za avdiovizualno arhivsko restavracijo. Poleg tega vodi tudi številne tečaje in izobraževanja za študente in strokovnjake – tako v INA kot v tujini. Predava o različnih temah, kot so restavriranje zvoka in filma, poklicih na področju avdiovizualnih medijev, načrtih za digitalizacijo itd.*

# **David Walsh**

Digital Preservation Consultant, IWM / Training and Outreach Coordinator, FIAF

## **Restoration Rules!**

Many film archivists are deeply concerned about the impact of digital technology in the context of the rapid decline in traditional film production technology, with digital seen as the culprit when beloved classical movies are found to have taken on the look of HDTV. It is not digital technology which is at fault, but rather its thoughtless application.



David Walsh has worked at the Imperial War Museum (IWM) since 1975, having studied Chemistry at Oxford University. From an initial project to study the decomposition of cellulose nitrate film, he has established himself as an expert in the preservation and digitisation of film and video. He is responsible for IWM's strategy for digitisation and for long-term preservation of digital media. As Training and Outreach Coordinator for the International Federation of Film Archives (FIAF), he takes a lead role in defining and implementing FIAF's training initiatives around the world, and is also a long-standing member of the FIAF Technical Commission.

*David Walsh je na Univerzi v Oxfordu študiral kemijo, od leta 1975 naprej pa dela v imperialnem vojnem muzeju (Imperial War Museum, IWM). S projektom, v katerem je proučeval razgradnjo celuloznegata nitratnega filma, se je uveljavil kot strokovnjak za ohranjanje in digitalizacijo filma in videa. V IWM je odgovoren za strategijo digitalizacije in dolgoročno ohranjanje digitalnih medijev. Kot koordinator za usposabljanje in povezovanje pri Mednarodnem združenju filmskih arhivov – FIAF ima vodilno vlogo pri implementaciji in izvajanju FIAF-ovih usposabljanj po vsem svetu. Je tudi dolgoletni član FIAF-ove tehnične komisije.*

## **Prednosti lenega restavratorja zvoka**

*Pok, bzz, klak, klik, prask, ššš, sik, hrr, opa ipd.*

*Številna orodja in zmogljivi pripomočki usposobljenim in potrpežljivim oblikovalcem zvoka danes omogočajo, da lahko popravijo skoraj vsako napako na zvočnih posnetkih. Prvi korak, na katerega moramo pri restavraciji zvoka paziti, je previden in natančen prenos optičnih ali magnetnih zvokov. Tak proces je najprej etičen, pri optimalnem prenosu se kakovost zvoka ohrani, izognemo pa se tudi nevarnosti digitalnih artefaktov. Poleg tega pa vam ta proces omogoči, da prihranite obilo časa, še posebej, če ste len restavrator zvoka. Benjamin bo ponudil nekaj nasvetov za hitrejše in bolj učinkovito delo.*

## Davide Pozzi

Director at L'Immagine Ritrovata / Executive Director at L'Immagine Ritrovata Asia / President at L'Image Retrouvée

### Technical and ethical aspects of the restoration

Davide Pozzi will speak about film restoration from technical workflow and ethical aspects.



Davide Pozzi has been working at the Cineteca di Bologna since 2001, and in 2006 he became the director of L'Immagine Ritrovata, the film restoration laboratory. Under his management, the laboratory has established itself as one of the most highly specialized facilities in the field of film restoration worldwide.

L'Immagine Ritrovata has recently opened two branches abroad, one in Hong Kong in 2015 (L'Immagine Ritrovata Asia) and one in Paris in 2016 (L'Image Retrouvée). The two branches enable L'Immagine Ritrovata to respond more effectively to the ever-growing demand from foreign archives, film libraries and researchers. L'Immagine Ritrovata is also one of the main organizers of the FIAF Film Restoration Summer School.

*Davide Pozzi od leta 2001 dela v bolonjski kinoteki. Leta 2006 je postal direktor laboratorija za filmsko restavriranje L'Immagine Ritrovata. Pod njegovim vodstvom se je laboratorij uveljavil kot ena najbolj specializiranih institucij na področju ohranjanja filmske dediščine na svetu.*

*L'Immagine Ritrovata je pred kratkim odprla dve podružnici v tujini, leta 2015 v Hongkongu (L'Immagine Ritrovata Azija) in leta 2016 v Parizu (L'Image Retrouvée). Obe novi instituciji omogočata, da se L'Immagine Ritrovata učinkoviteje odziva na vedno večje povpraševanje tujih arhivov, filmskih knjižnic in raziskovalcev.*

*L'Immagine Ritrovata je med drugim tudi eden glavnih organizatorjev FIAF-ove poletne šole restavriranja filma.*

### Tehnični in etični vidiki restavracije

Davide Pozzi bo o restavriranju filmov spregovoril z vidika tehničnega poteka dela in etičnih principov.

## Jonáš Svatoš (Head of Digital Laboratory), Matěj Strnad (Collections Development), Tereza Frolová (Film Restorer), Jeanne Pommeau (Film Restorer and Curator)

Národní filmový archiv, Praha/National Film Archive, Prague

### Digital Restoration in National Film Archive in Prague, as Supported Through EEA Grants

The NFA is about to finish its large and complex project Digital Restoration of Czech Film Heritage. Within this project, 14 feature films and programs were digitally restored and returned to cinemas. NFA's representatives will present and discuss their experience with digitization, related public tendering, supervision, collaboration, and outreach.

Matěj Strnad will provide an introduction into the complex project of Digital Restoration of Czech Film Heritage and share the experiences related to the project management.

Tereza Frolová will not only introduce methods and procedures employed during digital restoration, but also questions and dilemmas related to digitizing. Using real life examples from recently digitized films, she will focus on the role of reference print(s) in the process of digital restoration and understanding film material.

Jeanne Pommeau will focus on the restoration of the first films made in the Czech lands, directed by Jan

### Digitalna restavracija filmov v narodnem filmskem arhivu (Národní filmový Archiv, NFA) v Pragi, ki je bila finančno podprtta s strani programa FM EGP

NFA je tik pred tem, da dokonča kompleksen projekt digitalne restavracije češke filmske dediščine. V okviru projekta so digitalizirali 14 celovečernih filmov, ki so bili ponovno prikazani tudi v domačih kinematografih. Predstavniki NFA bodo predstavili omenjeni projekt ter delili svoje izkušnje z digitalizacijo in predstavljivijo novo digitaliziranih filmov javnosti. Spregovorili bodo tudi o nadzoru, sodelovanju, povezanih javnih naročilih in ozaveščanju o pomenu ohranjanja filmske dediščine.

V uvodni predstavitvi bo Matěj Strnad spregovoril o kompleksnem projektu digitalne restavracije češke filmske dediščine in delil številne izkušnje, ki so jih pridobili z vodenjem omenjenega projekta.

Tereza Frolová bo, poleg predstavitev metod in postopkov, ki so jih uporabili pri digitalni restavraciji, spregovorila o vprašanjih in dilemah, ki so se pojavljala v procesu digitalizacije. Na primeru pred kratkim

Kříženecký. These are preserved in various materials: original colour prints with Lumière perforations, original negatives, safety prints of the second half of the 20th century. The characteristics of those materials led us to develop a specific approach for their digitization.

Jonáš Svatoš will present the technical approach regarding the data-management workflow, the codecs and the formats used, and the role of open technical standards employed in the digitization and digital restoration pipeline used in Národní filmový archiv. He will also briefly discuss the LTP strategy for both digitized and born-digital material with respect to the planned state-of-the-art digitization facility, which is being built as part of the new film vaults near Prague.

digitaliziranih filmov se bo osredotočila tudi na vlogo referenčnih filmskih kopij v procesu digitalne restavracije in razumevanja filmskega gradiva.

Jeanne Pommeau se bo osredotočila na restavracijo filmov Jana Kříženeckýja, ki veljajo za prve filme, narejene na Češkem. Omenjeni filmi so ohranjeni v številnih različicah; od originalnih barvnih kopij s perforacijami bratov Lumière do originalnih negativov in acetatnih kopij iz druge polovice 20. stoletja. Različne karakteristike omenjenih materialov so namreč pripeljale do razvoja posebnega pristopa za njihovo digitalizacijo.

Jonáš Svatoš bo predstavil tehnični pristop v zvezi z upravljanjem podatkov, kodekov in formatov, ter spregovoril o vlogi odprtih tehničnih standardov, ki so jih pri restavraciji upoštevali v narodnem filmskem arhivu. Na kratko bo spregovoril tudi o o strategiji za dolgoročno ohranjanje digitalnih in digitaliziranih gradiv v okviru načrtovanja naj sodobnejših objektov in opreme, ki se gradijo kot del novih arhivskih prostorov blizu Prage.



**Tereza Frolová** graduated at the Department of Film Studies and Audiovisual Culture at Masaryk University, Brno and the Centre for Audio-visual Studies at the Film and TV School of the Academy of Performing Arts in Prague. Currently, she has been working on the digital restoration of Czech film heritage and her PhD at the Charles University in Prague looking at introduction of colour film technology in Czechoslovak cinema of 1940s and 1950s.

**Tereza Frolová** je diplomirala na oddelku za filmske študije in avdiovizualno kulturo na Masarykovi univerzi v Brnu in na Centru za avdiovizualne študije na filmski in televizijski šoli na Akademiji za uprizoritvene umetnosti v Pragi. Trenutno je zaposlena na projektu digitalne restavracije češke filmske dediščine, hkrati pa na Karlovi univerzi v Pragi piše doktorat, ki se ukvarja z uvedbo tehnologije barvnega filma v češkoslovaško kinematografijo med letoma 1940 in 1950.



**Jeanne Pommeau** studied restoration at the University of Paris 8 (France) absolving a Master in Valorisation of Film Heritage. She works as a restorer in National Film Archive in Prague (Czech Republic) where she focuses on both digital restoration and restoration of applied colors using traditional tinting and toning techniques.

**Jeanne Pommeau** je študirala restavriranje na Univerzi Paris 8 v Franciji in dokončala magistrski študij valorizacije filmske dediščine. Dela kot restavratorka v Narodnem filmskem arhivu v Pragi na Češkem, kjer se osredotoča tako na digitalno restavracijo kot na restavracijo barv nanešenih s pomočjo tradicionalnih tehnik tintiranja in toniranja.



**Jonáš Svatoš** is the Head of Digital Laboratory in Národní filmový archiv, the department which takes care of digitized film collections, as well as providing services related to digitalization of film and other media. He is originally a software engineer who focuses mainly on implementing solutions based on open standards and formats into the field of digital preservation. He is a graduate of the Center for Audiovisual Studies at FAMU in Prague, and is also member of Handa Gote Research and Development theatre ensemble.

**Jonáš Svatoš** je vodja digitalnega laboratorija v Narodnem filmskem arhivu v Pragi; gre za oddelek, ki skrbi za digitalizirane filmske zbirke in zagotavlja storitve, povezane z digitalizacijo filma in drugih medijev. Je inženir programske opreme, osredotoča se na implementacijo rešitev na področju digitalne restavracije, ki temelji na odprtih standardih in formatih. Diplomiral je na Centru za avdiovizualne študije na FAMU v Pragi. Poleg tega je tudi član gledališkega ansambla raziskovalne in razvojne skupine Handa Gote.



**Matěj Strnad** is a graduate of the Center for Audio-visual Studies at FAMU in Prague and worked as a digital projects assistant at the NFA between 2014 and 2016. He has served as the coordinator of the EEA grants funded »Digital Restoration of Czech Film Heritage« project. Since 2016, he is responsible for the development and methodology of collections. He is also active as an editor, consultant and lecturer in the field of film and media art preservation.

**Matěj Strnad** je diplomiral na Centru za avdiovizualne študije na FAMU v Pragi. Med 2014 in 2016 je v Narodnem filmskem arhivu (NFA) delal kot asistent pri digitalnih projektih. Bil je tudi koordinator projekta digitalne restavracije češke filmske dediščine. Od leta 2016 je na NFA odgovoren za razvoj in metodologijo upravljanja zbirk. Aktiven je tudi kot urednik, svetovalec in predavatelj na področju ohranjanja filmske in medijske umetnosti.

# Oliver Hanley

academic staff, MA programme "Film Culture Heritage" /  
PhD candidate, Filmuniversität Babelsberg KONRAD WOLF

## Talkin' About My Re-re-re-restoration!

Since the late 1970s, scholars and archivists alike have paid increasing attention to the non-canonical areas of film history, yet – particularly where the selection of films for restoration is concerned – the canon continues to thrive.

Advances in technology, the discovery of hitherto unknown elements or the need to re-purpose and re-market film heritage as tangible commercial assets has resulted in a small number of high-profile titles being frequently re-restored to the detriment of other, comparatively unknown films. In this presentation, I will look at the "canonisation" of film restoration and its impact on the study of film history.

In addition, I will investigate some of the issues involved in teaching film restoration or restoration-related topics in different educational settings – from introductions to screenings of restored films in cinemas or at festivals, to the increasing number of higher educational institutions which deal to differing extents with film restoration in their respective curricula.



Oliver Hanley currently teaches at the »Film Culture Heritage« MA programme at the Film University Babelsberg KONRAD WOLF in Potsdam, Germany. Previously he had worked as a curator at the Austrian Film Museum in Vienna, where, among other responsibilities, he oversaw a number of the Museum's preservation and restoration projects. He holds a BA degree in Film Studies from the University of Kent at Canterbury and an MA in Preservation and Presentation of the Moving Image from the University of Amsterdam. He co-edited the book *Work|s in Progress: Digital Film Restoration Within Archives*, published in 2013.

*Oliver Hanley trenutno poučuje na magistrskem programu "filmska kulturna dediščina" na Filmski univerzi Babelsberg KONRAD WOLF v Potsdamu v Nemčiji. Pred tem je delal kot kustos v Avstrijskem filmskem muzeju na Dunaju, kjer je med drugim nadziral številne projekte ohranjanja in restavriranja. Diplomiral je iz filmskih študij na Univerzi v Kentu v Canterburyju in magistriral iz ohranjanja in prikazovanja gibljivih slik na Univerzi v Amsterdamu. Bil je tudi sorednik publikacije *Work|s in Progress: Digital Film Restoration Within Archives*, ki je izšla leta 2013.*

## Moja Re-re-re-restavracija!

Vse od sedemdesetih let prejšnjega stoletja naprej akademiki in arhivistji vse večjo pozornost namenjajo nekanoniziranim področjem filmske zgodovine. Nasprotno pa je kanon, še zlasti, ko gre za izbor filmov za restavracijo, še vedno na prvem mestu.

Zaradi napredka v tehnologiji, odkritja doslej še neznanih elementov in potrebe po ponovni rabi in trženju filmske dediščine kot donosnega posla je bilo majhno število odmevnih in prepoznavnih naslovov restavriranih na škodo drugih, razmeroma neznanih filmov. V predavanju bomo poskušali problematizirati »kanonizacijo« filmske restavracije in vpliv, ki ga ima na študij zgodovine filma.

Raziskali bomo tudi nekaj vprašanj, povezanih s poučevanjem filmske restavracije in z njo povezanih tem v različnih izobraževalnih okoljih – od uvodov k projekcijam restavriranih filmov v kinematografi ali na festivalih do vse večjega števila visokošolskih institucij, ki se z obnovo filmov v različnem obsegu ukvarjajo v svojih učnih načrtih.

# **Paul René Roestad**

President of IMAGO

## **The role of the cinematographer in the restoration process**

Paul René Roestad will talk about restoration and archiving from the cinematographer's point of view, and will discuss the need for cooperation between various rightsholder's organizations and restorers and archivists' organizations to make both the EU and the national governments aware of the urgent need to increase funding for the work of restoring our vast film heritage at a reasonably increased speed and quality. Furthermore, the EU and the national governments should understand the urgent need to extend good quality training and education for young students in the art of restoring and archiving.

IMAGO sees a closer cooperation between archivists, restorers, and film creators as a positive contribution to the restoring process, and as a necessary and valuable input for the film to be restored as closely as possible to the creator's original intent.



Paul René Roestad has been the director of photography on around 20 feature films and TV drama series in addition to many short films, documentaries and commercials. Today he works as producer, director and cinematographer. His production company Laterna Magica mainly produces documentaries for TV.

During his time in the film industry, he has been President of the Norwegian Union of Film Workers, Vice President of the Norwegian Society of Cinematographers and General Secretary of IMAGO.

He also works as a lecturer in film and cinematography in the main film schools in Norway and organizes annual master classes and educational events in Oslo for cinematographers and film workers, mostly in cooperation with the Norwegian Film Institute, IMAGO and the Norwegian Society of Cinematographers.

He is also a head of the documentary film festival Nordic/Docs, which takes place in Fredrikstad, Norway.

*Paul René Roestad je kot direktor fotografije sodeloval pri več kot dvajsetih celovečernih filmih in televizijskih serijah ter pri številnih kratkih filmih, dokumentarcih in reklamah. Danes deluje kot producent, režiser in direktor fotografije. Njegova produkcijska hiša Laterna Magica večinoma producira dokumentarne filme za televizijo.*

*Ko je delal v filmski industriji, je bil predsednik norveške zveze filmskih delavcev, podpredsednik norveškega društva filmskih snemalcev in generalni sekretar zveze IMAGO.*

*Kot predavatelj za film in filmsko fotografijo dela na pomembnejših filmskih šolah na Norveškem. V Oslu v sodelovanju z norveškim filmskim inštitutom, zvezo IMAGO in norveškim društvom filmskih snemalcev organizira tudi vsakoletna predavanja in izobraževanja za filmske delavce.*

*Vodi tudi festival dokumentarnega filma Nordic/Docs, ki vsako leto poteka v mestu Fredrikstad na Norveškem.*

## **Vloga direktorja fotografije pri procesu restavriranja**

Paul René Roestad bo o restavriranju in arhiviranju spregovoril z vidika direktorja fotografije. Opozoril bo tudi na potrebo po sodelovanju med organizacijami, ki so lastnice avtorskih pravic in arhivskimi ter restavratorskimi institucijami, da s skupnimi močmi tako evropske kot nacionalne vlade ozavestijo o nujni potrebi po zvišanju sredstev za restavriranje filmske dediščine, s katerimi bi lahko povečali hitrost in izboljšali kakovost restavriranja. Poleg tega je treba vlade ozavestiti tudi o tem, kako pomembno je, da imajo mladi študenti možnost za usposabljanje in dobro izobrazbo ter znanje na področju arhiviranja in restavriranja.

Zveza IMAGO v tesnejšem sodelovanju med arhivistimi, restavratorji in filmskimi ustvarjalci vidi pozitiven prispevek k procesu restavracije ter nujen in pomemben prispevek k temu, da se filmsko delo ohrani tako, kot si ga je prvotno zamisliл njegov ustvarjalec.

# Reto Kromer

AV Preservation by reto.ch

## Before the restoration

Reto Kromer will talk about what is required before the restoration can even begin – how to have the best possible file available. He will share his thoughts on the preparation of the originals – the main part about the digitisation of the originals – and a little about file formats for further restoration work and preservation.



Reto Kromer graduated in mathematics and computer science and became involved in audio-visual conservation and restoration more than thirty years ago. He was the Head of Preservation at the Swiss National Film Archive and lecturer at the University of Lausanne and the Academy of Fine Arts Vienna. He has been running his own preservation companies, and lecturing at the Bern University of Applied Sciences. His current research includes colour spaces, look-up tables (LUT) and codec programming and emulation.

*Reto Kromer je diplomiral iz matematike in računalništva. Z avdiovizualnim konserviranjem in restavriranjem se je začel ukvarjati pred več kot tridesetimi leti. Med drugim je bil vodja oddelka za konservacijo pri Švicarskem narodnem filmskem arhivu, predavatelj na Univerzi v Lausanni in na Akademiji za likovno umetnost na Dunaju. Vodi tudi svoja podjetja, ki se ukvarjajo z ohranjanjem avdiovizualnih gradiv in predava na Bernski univerzi uporabnih znanosti. Njegove trenutne raziskave vključujejo barvne prostore, tehnologijo LUT, programiranje kodekov in računalniško simulacijo.*

## Pred začetkom restavracije

*Reto Kromer bo spregovoril o tem, kaj potrebujemo, preden se proces restavriranja sploh lahko prične – kako si že pred pričetkom restavriranja zagotovimo najboljšo možno obliko zapisa. Razmišjal bo o pripravi izvornih materialov – eni izmed ključnih stvari pri digitalizaciji – ter o formatih datotek za nadaljnji proces restavriranja in hranjenja.*